Mergers, Acquisitions and Market Power in the Electric Power Industry

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-- J.D. and J.D.E.

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I. Introduction

Market power, "the ability to influence market price and/or subdue rivals"[1], has been a subject of concern in a restructured electric power industry. Indeed, the California Energy Commission (Energy Commission) has produced 3 working papers on this subject[2] and sponsored a research project by the University of California Energy Institute (UCEI), which produced the publication "Market Power in California Electric Markets" under Interagency Agreement No. 700-93-003, Amendment #2. Furthermore, while not part of ER-96 (Energy *Commission's 1996 Electricity Report*), ongoing work by Energy Commission staff and UCEI (a second phase of follow-up work based on their initial publications) is being considered, set to schedules of the California Public Utilities Commission (CPUC) and the Federal Energy Regulatory Commission (FERC). Energy Commission staff are already participating in an industry-wide working group that is developing a common understanding of the theory, research, and mitigation strategies of market power.

Mergers and acquisitions (M&A) are occurring in many industries in the U.S., including the electric power industry. Recent electric power mergers, according to Mr. Lawrence J. Makovich of Cambridge Energy Associates, were the result of the 1994 CPUC proposal for retail wheeling. Many utilities saw deregulation coming quickly and some felt they needed a partner to improve their competitive positions. Others view recent mergers as a result of the Energy Policy Act of 1992 (EPAct), which promotes competition. Firms are generally faced with either a merger or acquisition in order to grow or downsize by separating and spinning off power generation assets from transmission and distribution (T&D) assets.[3] The objective of this working paper is to investigate the interactions and effects of M&A and market power, both within California and throughout the U.S. There is a risk of increased market power when firms in the same market merge allowing prices to rise or giving firms strategic power to prevent entry.

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1. Douglas F. Greer, *Industrial Organization and Public Policy*, (New York: McMillan, 1992), p. 97.

2. See California Energy Commission, *Generation Market Power In Electricity Restructuring*, (Sacramento, 1995), California Energy Commission, *Screening Analysis On The Potential For Generation Market Power In Electricity Restructuring: Market Shares*, (Sacramento, 1995), and California Energy Commission, *Can Models Of The Existing Power System Be Used To Estimate Local Market Power?*, (Sacramento, 1995).

3. Benjamin A. Holden, "UtiliCorp and Kansas City P&L agree to combine in a $1.35 billion merger", *The Wall Street Journal*, (January 23, 1996), p. A3.

II. The Problem

The public policy question which this working paper addresses is how current and future mergers ("the fusion of two or more companies into one"[4]) and acquisitions ("the taking over of one firm by another"[5]) will influence market power in the U.S. electric power industry. Conversely, market power can also impact M&A. Therefore, the subject is important to assess, given the present and apparently rapid movement toward deregulation in the U. S. electric power industry.

III. M&A in the U.S. Electric Power Industry

"Mergers and acquisitions reduced the number of Investor Owned Utilities (IOUs) nationally from 2,000 in 1920 to 465 in 1957, and today there are approximately 230."[6] As of October 31, 1995, M&A both domestically and internationally have reached new (total transaction value) levels, according to the Securities Data Corporation. They found that in the U.S. to that date, M&A by all firms had already totaled $346 billion, compared to the entire prior year (1994) value of $347.1 billion. Similarly, the $653.4 billion in world-wide deals had already set a new yearly record.[7] M&A in the U.S. accounted for $519 billion for the year 1995 and $658.8 billion in 1996.[8]

Utilities (electric, gas distribution and water), in 1995 and 1996, recorded the second highest level of merger activity -- second only to banks, according to the Security Data Corporation. For 1995, the U.S. electric power industry announced 29 M&A and in 1996, 21 M&A (see table 1). However, note that some of the transactions appear to be management/ownership changes and not combinations of firms likely to be in the same market. Over the preceding 10 years, there were 34 major U.S. utility mergers announced, with 11 unsuccessful attempts, including the failed

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4. Graham Bannock, R.E. Baxter, and Evan Davis, *Dictionary of Economics*, (London: Hutchinson Business Books, 1988), p. 270.

5. Greenwald and Associates, *The McGraw-Hill Dictionary of Modern Economics*, (New York: McGraw-Hill, 1973), p. 9.

6. FERC Transmission Task Force, *Electricity Transmission: Theory and Policy Alternatives*, (October 1989), pp. 6-7.

7. "This Year's Wave of Mergers Heads Toward A Record", *The New York Times*, October 31, 1995, p. 1.

8. *The Economist*, "Business This Week," (January 4, 1997), p. 5.

PECO Energy and Pennsylvania Power and Light (PP&L) Resources merger (see table 2.) In September 1996 David W. Penn of the American Public Power Association (APPA) observed "There have been 16 (major) announcements for new electricity company mergers in the past year and a half, two of them competing with each other and only one of the 16 withdrawn. The assets involved represent over $120 billion or nearly 20 percent of the industry's entire asset base."[9] Table 3 summarizes some important M&A activity by U.S. utilities in foreign markets. Factors important in the international M&A activity are privatization and restructuring. However, M&A in the U.S. by foreign utilities have not been systematically recorded. For example, National Power PLC of the U.K. on April 25, 1996 agreed to buy a natural gas-fired plant from Enron Corporation/Jones Capital Corporation of the U.S. for $163.5 million.

In New York State's restructuring debate, Sithe, Inc. estimated cost savings between $9 billion and $11 billion due to utility mergers. This savings was endorsed by Independent Power Producers of New York (IPPNY) on November 15, 1995. Perhaps two utilities could emerge in New York State that might eliminate duplication (pancake transmission costs or "wholesale transmission rates, i.e., the price of power delivered from one utility to second utility, which flows 'through' the area of two intermediate utilities has wheeling charges from both intermediate utilities added to the purchasing price."[10]) and regulatory costs. In the New York Public Services Commission (NYPSC) hearings, IPPNY wanted the Commission to prevent anti-competitive behavior and ensure antitrust laws apply until divestiture (of generation) is possible.[11]

The proposed Primergy merger, for example, claimed cost savings not attainable absent a merger, i.e., no pancaking of transmission costs. "The marriage of Northern States Power (NSP) and Wisconsin Energy (WE), the holding company for Wisconsin Electric Power (WEPCO), will mean that transmission customers will pay only one transmission tariff, not two, when they seek to buy power from alternative sources."[12] Reduced pancaking of transmission rates might occur in the California pool.[13]

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9. David W. Penn, "The Value of a Public Power Distribution System: Increasing, Not Decreasing," (American Public Power Association, September 1996), p. 11.

10. Edward Kahn and Luis Pando, "Simulating Electricity Restructuring in California: Interactions with the Regional Market," Draft Copy, University of California Energy Institute (UCEI), (March 1, 1996), p. 9.

11. Lionel Lerner, "Summary of New York State Restructuring Issues," California Energy Commission, (February 8, 1996), p. 15.

12. Jeanne LaBella and Diane Moody, "Getting Big," *Public Power*, Vol. 54, No. 1, (January-February 1996), p. 12.

13. Edward Kahn and Luis Pando, "Simulating Electricity Restructuring in California: Interactions with the Regional Market," p. 12.

Table 1

Announced Electric M&As in 1995, 1996, and 1997

Date Announced Date Effective	Target Name Business Description Financial Advisor(s)	Acquirer Name Business Description Financial Advisor(s)	Form Status Attitude	Value (mil) Price/Share	Acquisition Technique(s)
09/25/95	Potomac Electric Power Company Electric Utility Barr Beaty Devlin & Co.	Baltimore Gas and Electric Co. Electric and gas utility Goldman, Sachs	Merger Pending Friendly	3,073.9 US 26.05	Stock Swap Pooling of Interests
Consideration:	.997 new co sh com/Potomac Electric Power sh com; 1 new co sh com/Baltimore Gas and Electric sh com				
06/20/95	LILCO Electric Utility	Long Island Power Authority Pvd electric power, dist svcs	Merger Pending Hostile	2,083.5 US 17.50	Going Private
Consideration:	$17.50/sh com				
08/14/95	CIPSCO Inc. Electric utility, holding company Morgan Stanley	Union Electric Co. Electric and gas utility Goldman, Sachs	Merger Pending Friendly	1,242.5 US 36.44	Stock Swap Pooling of Interests
Consideration:	1.03 newly issued shs com/CIPSCO sh com; 1 newly issued shs com/Union Electric shs com				
08/23/95	Southwestern Public Service Co Electric utility Dillon, Read	Public Service Co of Colorado Electric and gas utility Barr Beaty Devlin & Co.	Merger Pending Friendly	1,020.4 US 24.94	Stock Swap Merger of Equals
Consideration:	.95 new co sh com/1 Southwestern Public Service sh com; 1 new co sh com/1 Public Service Co of Colorado sh com				
07/11/95	O'Brien Environmental Energy Geothermal electric utility Arthur Anderson	Calpine Corporation Manufacture geothermal steam Chase Manhattan Corporation	Merger Pending Friendly	197.0 US	Bankruptcy Acquisition
Consideration:	$107 mil cash plus $90 mil assumption of liabilities/com				
02/27/95	Scott Paper-Power Generation Power generation facility Salomon Brothers	CRSS Inc. Engineering, architectural svcs	Acq. Of Assets Pending Friendly	170.0 US	Divestiture
Consideration:	$170 mil/assets				
11/29/95	Fort Martin Power Pvd electric power svcs	Allegheny Power System Inc. Electric utility holding company	Acq. Rem. Int. Pending Friendly	170.0 US	Divestiture
Consideration:	$170 mil/remaining 50% interest				
04/07/95	CRSS Inc-Alabama Power Project Alabama Power Project	James River Corp of Virginia Mnfr paper, paper-related products	Acq. Part. Int. Pending Friendly	38.1 US	Not Applicable
Consideration:	$38.1 mil cash/minority stake				
02/16/95 02/16/95	Hydro Development Group Inc Electric utility	Consolidated Hydro (Raindancer) Hydroelectric power plants	Merger Completed Friendly	36.4 US	Not Applicable
Consideration:	$36.4 mil/capital stock				
04/25/95 04/25/95	Great Bay Power Corporation Electric utility	Investor Group investor group	Acq. Part. Int. Completed Neutral	26.4 US 12.17	Acquiror is an Investor Group Open Market Purchase
Consideration:	$12.17 cash/sh com				
06/14/95 07/03/95	Vectra Technology-Plant Svcs Electric utility plant	Westinghouse Electric Corporation Mnfr elec defense electn equip	Acq. Of Assets Completed Friendly	22.6 US	Divestiture
Consideration:	$19 mil plus $3.6 mil earnout/assets				
07/13/95 07/13/95	Great Bay Power Corporation Electric utility	Investor Group Investor group	Acq. Part. Int. Completed Friendly	7.6 US 8.50	Acquiror is an Investor Group Privately Negotiated Purchase
Consideration:	$8.50/sh				
07/11/95	Nevada Geothermal-Brady (Nevada) Electric co; holding company	Nevada Energy Partners I Electric co; holding company	Acq. Maj. Int. Pending Friendly	5.5 US	Divestiture

Announced Electric M&As in 1995, 1996, and 1997

Date Announced Date Effective	Target Name Business Description Financial Advisor(s)	Acquirer Name Business Description Financial Advisor(s)	Form Status Attitude	Value (mil) Price/Share	Acquisition Technique(s)
Consideration: $5.5 mil/50% interest					
04/25/95 04/25/95	Great Bay Power Corporation Electric utility	Investor Group Investor group	Acq. Part. Int. Completed Friendly	1.7 US 7.75	Acquiror is an Investor Group Privately Negotiated Purchase
Consideration: $7.75/sh com					
06/28/95	Tads Enterprises-Nevada Electric utility	Nevada Energy Company Inc Pvd physical research svcs	Acq. Of Assets Pending Friendly	1.0 US	Divestiture
Consideration: $.875 mil class A com plus $.125 mil in the assumption of short-term debt/assets					
10/11/95 10/11/95	Maine Energy Recovery Co (ETI) Electric utility	ETI Inc Own, op waste-to-energy plants	Acq. Part. Int. Completed Friendly	1.0 US *	Privately Negotiated Purchase *Value Estimated
Consideration: $1 mil/30% stake					
10/04/95 10/04/95	O'Brien Environmental Energy Geothermal electric utility	Waxford Capital Investment firm	Acq. Part. Int. Completed Neutral	0.2 US 0.54	Bankruptcy Acquisition Privately Negotiated Purchase
Consideration: $.54/class b sh com					
01/19/95 01/31/95	Greenleaf Unit One Association Electric utility	Calpine Corporation Manufacture geothermal steam	Acq. Of Assets Completed Friendly	-	Divestiture
Consideration: Not Available					
01/26/95 01/26/95	Second Imperial Geothermal Co Electric utility	Ogden Corporation Hazardous waste removal svcs	Acq. Of Assets Completed Friendly	-	Not Applicable
Consideration: Not Available					
03/21/95 03/21/95	Citizens Conservation-Energy Energy services operations	EUA Cogenex Corp Operate cogeneration plants	Acq. Of Assets Completed Friendly	-	Divestiture
Consideration: Not Available					
04/28/95	Energy Inc Electric utility	Quantum Industrial Fund Investment fund	Acq. Part. Int. Pending Friendly	-	Not Applicable
Consideration: Not Available					
05/18/95	North Pine Electric Coop Electric utility	East Central Electric Assoc Electric utility	Merger Pending Friendly	-	Not Applicable
Consideration: Not Available					
08/17/95	Soyland Power Coop-Cert Asts	Illinova Corporation Electric and gas utility	Acq. Of Assets Pending Friendly	-	Divestiture Restructuring
Consideration: Not Available					
11/28/95	Ollig Utilities Co Pvd electric, gas, water svcs	Hector Communications Corp Telecommunications services	Acq. Maj. Int. Pending Friendly	-	Not Applicable
Considerations: Not Available					

Source: Securities Data Company (Brief Summary Report)

Table 1 (Continued)

Announced Electric M&As in 1995, 1996, and 1997				
Date	Name	Name	New Name	Comments
1995	Sierra Pacific Resources	Washington Water Power	Altus Corp	Plan to create a corporation valued at $3.4 billion. On June 28, 1996 Washington Water Power backed out of their deal citing irreconcilable differences with federal regulators.
04/95	Midwest Resources Inc.	Iowa-Illinois Gas and Electric Co.	MidAmerican Energy Co	Expected to merge by mid-year to form MidAmerica Energy Company
05/01/95	Wisconsin Energy Corporation	Northern States Power	Primergy Corp	To create the 10th largest utility in the country, a new registered holding company called Primergy Corporation would have a 1994 market capitalization of $6 billion.
10/18/95	Puget Sound Power and Light Company	Washington Energy Company	Name undecided	To create a new company with a market capitalization of approximately $1.9 billion, creating the largest electric and gas combination utility in the Pacific Northwest.
11/14/95	Wisconsin Power Light (WPL Holdings)	IES Industries	Interstate Power Company	Formed a new holding company to rank 34th in the nation among utility holding companies, having a 1994 market capitalization between $2 billion and $4 billion.
1/23/96	UtiliCorp United Inc.	Kansas City P&L	Maxim Energies, Inc.	In keeping with UtiliCorp's strategy of expansion, this merger creates a new company with assets of $6.4 billion, and 2.2 million electricity and natural gas customers in eight states, British Columbia, New Zealand and Australia. In September 1996, the proposed merger was voted down by KCP&L shareholders. KCP&L terminated its merger proposal.
2/12/96	Western Resources of Topeka, Kansas	The Wing Group of Houston, Texas		Western Resources acquired the Wing Group, one of the premier power developers in the world.
2/19/96	Baker Cooperative of North Dakota	Tri-County Electric of North Dakota		The two co-ops merged hoping to save $9.4 million in administrative and operation costs.
4/1/96	UtiliCorp United	Unifield Natural Gas, a major gas marketeer in the Chicago area, provides commodity, transportation and storage management services to 150 commercial and small industrial customers.		Terms of the transaction were not disclosed for UtiliCorp United purchase of Unifield Natural Gas.
4/15/96	Western Resources Inc.	Kansas City P&L Co. (KCPL)		Western Resources made a hostile $1.7 billion bid offer to break up deal with UtiliCorp United. The offer was rejected on 4/23/96 by KCPL. A proxy fight occurred. On 2/8/97, Western Resources, Inc. completed its acquisition of KCPL for $2 billion in stock. This is the first successful hostile takeover in the

Table 1 (Continued)

Announced Electric M&As in 1995, 1996, and 1997				
Date	Name	Name	New Name	Comments
				electric utility industry.
4/16/96	Texas Utilities Company of Dallas, Texas (owner of Texas Utilities Electric Company and the Southwestern Electric Services Company).	Enserch Corporation (owner of one of the nation's largest natural-gas pipeline companies)	Texas Utilities Company	The Texas Utilities Company has agreed to acquire the Enserch Corporation for about $1.7 billion.
5/96	New England Electrical System (NEES)	Nantucket Electric Co. (NEC)		NEES acquired NEC through a common share exchange valued at $4.5 million on 3/26/96. NEC will become a wholly owned subsidiary of NEES. The transaction was completed on 6/96.
7/22/96	Enron Corporation	Portland General Corporation	Enron Corporation	Enron has agreed to acquire Portland General in a $2.1 billion stock transaction that will create the 7th largest seller of electricity in America.
8/05/96	MidAmerican Energy Co. of Des Moines, Iowa	IES Industries Inc.		MidAmerican Energy Co. made an unsolicited takeover bid for smaller rival IES Industries for about $1.2 billion. On 8/17/96, the directors of IES Industries rejected a $1.17 billion buyout offer from the MidAmerican Energy Company and approved a sweetened offer to merge with two other utilities, WPL Holdings Inc. of Madison, Wis., and the Interstate Power Company of Dubuque, Iowa.
8/13/96	Houston Industries	NorAm Energy Corporation	Houston Industries, Inc.	Houston Industries, the ninth-largest electric utility in the U.S., said it will pay $2.4 billion for NorAm Energy Corporation, the third largest natural gas utility giving the combined company control of most retail electricity and gas sales in the Houston area.
8/13/96	Delmarva Power and Light Company of Wilmington, Delaware.	Atlantic Energy of Egg Harbor Township, New Jersey	Name undecided	Delmarva Power and Light is buying neighboring Atlantic Energy Inc. for $951 million in stock and will create an electric with a market value of $2.2 billion and 1 million customers in Delaware, southern New Jersey and parts of Maryland and New Jersey.
8/96	UtilCorp United	AGF Direct Gas Sales Inc.		UtilCorp United has announced it purchased AGF Direct Gas Sales Inc., an independent natural gas marketing firm in Manchester, N.H.
9/17/96	Ohio Edison	Centerior Energy Corporation		Ohio Edison proposed to buy the Centerior Energy Corporation in a $1.61 billion stock swap to create the nation's 11th largest investor-owned utility, serving 2.1 million customers in Ohio and western Pennsylvania.
10/15/96	Pacific Enterprises	Enova	Name undecided	Pacific Enterprises parent of Southern California Gas Co., the nation's largest natural-gas distribution company, and Enova Corporation, parent of SDG&E, have agreed to swap stock valued at $2.8 billion. The two companies combined have 5.9 million customers, and the merged entity could have the largest customer base of any investor-owned utility in the U.S.
11/96	Carlton County Cooperative Power Association, Dairyland Cooperative Inc., and Northern Electric Cooperative Association.		Lake County Power	The consolidation (merger) of the three co-ops has been approved by each co-op's membership and will become effective as of 1/1/97
11/18/96	Pacific Gas Transmission Company (PGT) of Portland,	Energy Source, the gas marketing arm of Edisto Marketing Corporation		PG&E via PGT acquired Energy Source, a Houston-based gas marketing business from EDT. The sales price is $28 million in cash plus

Table 1 (Continued)

Announced Electric M&As in 1995, 1996, and 1997				
Date	Name	Name	New Name	Comments
	Oregon, a subsidiary of PG&E	(EDT) of Houston, Texas		working capital as of July 31, 1996 (approximately $20.6 million) subject to adjustments. Energy Source has offices in Houston, Calgary, Tulsa, Pittsburgh, and New York with a strong customer base in the northeast and midwest region. PGT is the largest U.S. transporter of Canadian natural gas. The company owns and operates a natural gas pipeline system that begins at the Idaho/Canada border and ends at the Oregon/California border, where PGT interconnects with PG&E.
11/21/96	PG&E	Teco Pipeland Company		PG&E agreed to buy (acquire) Teco Pipeline Company of Texas for $380 million. Teco owns a 500-mile pipeline in Texas and also a gas collection and processing centers and a gas marketing unit. The Pacific Gas Transmission Company unit of PG&E already operates pipelines in the Pacific Northwest and Australia.
11/25/96	Duke Power	PanEnergy		Duke Power Co., one of the biggest electric utilities in the U.S., has reached an agreement to acquire PanEnergy Corp., a major natural-gas pipeline concern for about $7.7 billion. This creates an energy service giant from two leading firms in their industry. They want to sell power and other services nationwide.
11/26/96	Teco Energy, Inc.	Lykes Energy Inc.		Teco Energy Inc., whose principal subsidiary is Tampa Electric said it is merging with Lykes Energy Inc., the parent of Florida's largest natural gas distribution company for about $300 million.
12/13/96	Western Resources Inc.	Oneok		Western Resources Inc. will sell its natural gas pipelines and plants to Oneok Inc. for $660 million in stock giving it access to Oneok's customers in Oklahoma. Western has an option to own 45 percent of Oneok which will become the ninth largest gas distribution system. The transaction will keep Oneok independent for at least 15 years.
12/30/96	Long Island Lighting Company (Lilco)	Brooklyn Union Gas		Brooklyn Union Gas Co. agreed to merge with Lilco in a stock swap valued at $3 billion. The companies say a combination would reduce costs by $1 billion over 10 years, primarily through eliminating redundancies in the combined staffs through attrition. Only 35% of the savings will occur in the first five years and will be divided equally among stockholders and ratepayers throughout the company's territory.
1/7/97	Enron Corporation (Houston, Texas)	Zond Corporation (Tehachapi, California)		The Enron Corporation acquired the Zond Corporation, one of the largest developers of wind-powered electricity generation, and formed a business unit to focus on developing renewable energy projects. Terms were not disclosed. Zond will become a subsidiary of the Enron Renewable Energy Corporation.
1/31/97	PG&E	Valero Energy Corporation (San Antonio, Texas)		PG&E Corporation, the nation's largest utility, announced that it would acquire most of the Valero Energy Corporation for $722.5 million in stock. PG&E will acquire Valero Natural Gas which operates 7,500 mile gas pipeline and eight natural gas processing plants and a marketing group that markets natural gas and electricity around the country. It wants to build

Table 1 (Continued)

Announced Electric M&As in 1995, 1996, and 1997				
Date	Name	Name	New Name	Comments
				a nationwide marketing organization around Valero which already sells natural gas and electricity throughout the country and its other two recent acquisitions, Teco Pipeline Company and Energy Source of Houston.
2/97	Green River Electric Corp. and Henderson-Union Electric Cooperative (Kentucky)			Green River Electric Corp. and Henderson-Union Electric Cooperative have agreed to a consolidation of the two utilities. This merger will create one distribution company with 46,000 customers in 13 Kentucky counties.
2/97	NIPSCO Industries Inc. and IWC Resources Corp. (Indiana)			NIPSCO Industries, Inc. and IWC Resources Corp. have agreed to merge. NIPSCO is an energy-based holding company whose regulated subsidiaries provide natural gas and electric services throughout northern Indiana. IWC owns a water company, underground utility locating and marketing services business in the U.S. and also Miller Pipeline Corp., one of the nation's major gas pipeline construction companies.
2/19/97	NGC Corporation (Houston, Texas)	Destec Energy (Houston, Texas)		The NGC Corporation, a growing seller of natural gas acquired Destec Energy, a major operator of independent power plants for $1.27 billion. This gives NGC the ability to expand its business in electricity marketing by acquiring a source of low cost power. The deal will see NGC sell Destec's international operations to AES Corporation, a large power producer, for $407 million. Finally, eleven of Destec's twenty domestic plants are in California.
3/12/97	PacifiCorp. (Portland, Oregon)	Tejas Power Corp. (TPC Corp., Houston, Texas)		PacifiCorp has agreed to acquire TPC Corp., a natural gas company, for $288 million and $147 million of its debt. TPC has focused its business around gas transportation and marketing. This helps PacifiCorp at a time when gas and electric markets are merging. It is also the latest in M&A activity designed to make PacifiCorp a major energy services company both in the U.S. and abroad.
3/21/97	Modesto Irrigation District (MID)	PG&E		PG&E will sell part of its electric distribution system to the MID for $110 million as part of a comprehensive settlement.
3/26/97	Wisconsin Energy Corporation	Eselco Inc.		Wisconsin Energy Corporation agreed to acquire Eselco, Inc. which owns the Edison Sault electric utility in Sault Ste. Marie, Michigan for about $71 million.
4/4/97	New Environmental Technologies, Inc.	Keystone Energy Services (LA, CA)	Keystone Energy Services	New Environmental Technologies, Inc. will acquire Keystone Energy Services for five million shares of New Environmental Technologies common stock restricted under SEC Rule 144.

Sources: The New York Times; The Wall Street Journal; and Electric Light & Power 1995, 1996 and 1997. Electric Utility Week 1996; The
Sacramento Bee 1996 and 1997; and Edisto Resources Corporation and Pacific Gas Transmission Company, News Release, November 18, 1996;
Energy Central News, 1997.

Table 2

Electric Industry Mergers: The Real Restructuring?

One Wall Street utility financial analyst told state regulators at a September 1995 conference in Gatlinburg, Tennessee, that they can expect to see one major electric utility merger each month for the next year. Another observer notes that electric utilities in tomorrow's competitive environment must have at least 2 million customers to survive.

As state legislators, regulators and other stakeholders debate the electric industry structure and a competitive vision for the future, is the real framework for the nation's electric system really being created by the booming "Bigger Is Better" mergers of utilities? States will be considering the impact of mergers on future competition, including antitrust concerns, and the changes in state regulatory jurisdiction over new merged utilities, including state holding company and "affiliated transactions" statutes. FERC Commissioners are also reassessing their merger policy.

A list of the major electric utility mergers announced over the last decade now accelerating into 1990's, appears below which includes unsuccessful hostile merger attempts (*****) and the many pending mergers announced recently in 1995.

1986	-	Centerior Energy - Cleveland Electric Illuminating / Toledo Edison
1988	- *	San Diego Gas & Electric / Tucson Electric Power
	- *	Southern California Edison / San Diego Gas & Electric
1989	-	Utah Power and Light Company / PacifiCorp
	- *	WPL Holdings and Madison Gas & Electric
	- *	Eastern Utilities Associates-Fitchburg Gas & Electric / UNITIL
	- *	PacifiCorp - Pinnacle West
1990	- *	Kansas City Power & Light / Kansas Gas & Electric
	-	Western Resources - Kansas Power & Light / Kansas Gas & Electric
1991	-	Northeast Utilities / Public Service of New Hampshire
1992	-	Midwest Resources - Iowa Public Service Company / Iowa Resources
1993	-	Entergy / Gulf States Utilities
	-	CINergy - Public Service of Indiana / Cincinnati Gas & Electric
	- *	Indianapolis Power & Light / Public Service of Indiana
1994	- *	Central and Southwest / El Paso Electric
1995	-	Resources West Energy Corporation - Washington Water Power / Sierra Pacific Resources
	-	MidAmerican Energy Company - Midwest Resources / Iowa Public Service Company
	-	Primergy - Northern States Power / Wisconsin Electric Power
	- *	PECO Energy and PP&L (Pennsylvania Power & Light) Resources
	-	Union Electric / Central Illinois Public Service
	-	Public Service of Colorado / Southwestern Public Service
	-	Interstate Energy Corporation - IES Industries / WPL (Wisconsin Power & Light) Holdings / Interstate Power Company
	-	Puget Sound Power & Light Company / Washington Energy Company
	-	Baltimore Gas & Electric / Potomac Electric Power Company

Source: Legislative Energy Advisory Program (LEAP), LEAP Quarterly Legislative Letter, Fall 1995.

Table 3

M&As and Joint Ventures by U.S. Utilities in Foreign Markets in 1995, 1996, and 1997

Nation	Year	Comments
U.K.	09/95	Houston Industries and The Central and South West Corporation (two U.S. holding companies) announced an agreement to acquire Norweb PLC for $2.7 billion. But a British water utility quickly topped their offer ($2.79 billion). It was followed by another offer of the two U.S. utilities of $2.72 billion. Apparently the bid was unsuccessful by the Americans, being topped again by a British water company.
U.K.	10/01/95	The Southern Co. (U.S.) has had a $1.7 billion buyout offer accepted by Bristol, England based South Western Electricity, a regional electricity company.
U.K.	11/95	Central and South West Corporation of Dallas (U.S.) reached an agreement to buy Seeboard PLC of Britain, a regional electricity company, for $2.58 billion.
U.K.	12/26/95	The independent power unit of Southern California Edison Corporation (U.S.) announced that it acquired First Hydro Company, a British hydroelectric company for $1 billion.
Australia	10/95	UtiliCorp United, which is based in Kansas City, Missouri (U.S.), led a partnership that agreed to buy United Energy, an electric distribution company, of Melbourne (Australia) for $1.15 billion.
Australia	11/95	The General Public Utilities Corporation of Parsipanny, New Jersey (U.S.) agreed to buy a 50 percent stake in Solaris Power Ltd., a state-owned electric distribution company, of Melbourne, Australia for $109 million and the assumption of $247.3 million of debt.
Australia	11/95	Texan Utility Company (U.S.) based in Dallas said it would buy Eastern Energy, an Australian state-owned electricity distribution company, for $1.55 billion.
Australia	11/95	PacifiCorp, based in Portland, Oregon (U.S.) said it would acquire Powercor Ltd., a state-owned electric distribution company, from Victoria State (Australia) for $1.6 billion.
Australia	11/95	The Entergy Corporation, a holding company based in New Orleans, Louisiana (U.S.) offered to buy Citipower of Victoria (Australia), a state-owned electric distribution company, for about $1.16 billion. (Entergy has made other investments overseas, buying parts of electric systems sold by governments in Argentina and Peru, is investing in a big power project in Pakistan, has joint operations in Chile, and is engaged in talks in China to build power generation plants.)
Estonia	03/96	NRG Energy Inc., a wholly owned subsidiary of Minneapolis-based NSP with extensive operations in the independent power business, signed an agreement to invest up to $250 million in Eesti Energia of Estonia, a state-owned power company.
UK	05/08/96	General Public Utilities of New Jersey and Pennsylvania and Cinergy, a major Midwest utility, proposed a $2.6 billion bid to acquire Midlands Electricity, PLC, one of the twelve regional distribution companies in Britain.
Brazil	05/22/96	A consortium headed by Houston Industries Inc.(U.S.), AES Corp. (U.S.) and Electricite de France purchased control of the Brazilian state-owned electrical utility Light Servicos de Eletricidade SA in a transaction valued at $1.7 billion.
Australia	08/05/96	Britain's National Power PLC and the Commonwealth Bank Group of Australia have teamed up with PacifiCorp and Destec Energy Inc. of the U.S. to buy an Australian utility, Hazelwood Power Station, from the state of Victoria for $1.86 billion.
Mexico	08/13/96	A consortium of Enova (San Diego Gas and Electric) and Pacific Enterprises (Southern California Gas Co.) in partnership with Proxima, (Mexico) a local gas distributor, won Mexico's first-ever concession to sell natural gas directly to residential and industrial users in Mexicali, Mexico. The new consortium will be named Distribuidora De Gas Natural SA or DGN and will invest $20-25 million to install a natural gas distribution system.
Hong Kong	10/10/96	The Southern Company's Southern Electric International unit has agreed to acquire 80% of Consolidated Electric Power Asia (C.E.P.A.) the world's 5th largest independent power producer for $2.7 billion.
	10/96	Duke Power/Louis Dreyfus signed a letter of intent with Direct Energy Marketing Ltd. (DEML) to acquire 100 percent of DEML common stock. The acquisition will enhance Duke/Dreyfus' existing natural gas expertise and expand its presence in Canada.
U.K.	10/28/96	CalEnergy Inc. of Omaha, Nebraska made a hostile bid (acquisition) for Northern Electric PLC of Britain. Northern rejected the bid as "inadequate." On 12/26/96, CalEnergy claimed control with a 50.3 percent holding and a hostile $1.3 billion buyout bid.
U.K.	11/14/96	Dominion Resources Inc. of Richmond, Virginia proposed to acquire East Midlands Electricity PLC of the U.K., a regional electric company, for about $2.15 billion.
Bolivia	11/15/96	The Northern States Power Company of Minneapolis, Minnesota said that its NRG Energy Inc. unit had agreed to acquire the Bolivian Power Company for $182 million.
U.K.	12/19/96	Entergy Corporation of New Orleans, U.S. proposed to buy London Electricity PLC for $2.1 billion.
U.K.	2/25/97	AEP and Public Service Co. of Colorado agreed to buy Yorkshire Electricity Group PLC for $2.4 billion making it the 8th planned acquisition of a British utility by U.S. companies in the past twenty months.

Sources: The New York Times and The Wall Street Journal 1995, 1996, and 1997, The Energy Daily 1996.

IV. Timing of M&A

Relationship To The Business Cycle

In reviewing the economic literature on this subject, Dr. Douglas Greer concluded "that there is a high correlation between the number of mergers and the general business cycle."[14] In general, sellers feel they can get the best deal when stock prices are high and buyers can raise funds more easily during this same period.

The Economist has some interesting insights into this relationship: "Abbey Cohen, a strategist at Goldman Sachs...reckons that the average constituent firm of the broad Standard & Poor's (S&P) 500 stock market index is making a return of more that 20 percent -- twice the returns of similar European companies and more than six times the average Japanese firm's measly 3 percent. This impressive performance has given American firms plenty of options."[15] With these capital gains, mergers have certainly become one of the attractive options. Furthermore, "Low interest rates and plentiful bank liquidity have lowered the costs of financing cash takeovers. Booming share prices have boosted companies' net worth; rationally or not, that has made it easier to issue new shares to pay for deals."[16]

V. Causes of M&A

A. Causes of Mergers

Many of the causes of M&A broadly considered have been discussed by Greer[17] and Ray et al.[18] Following Greer's discussion, we consider the relation of utility M&A to the nature and pace of deregulation:

1. Economic Efficiency

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14. Greer, *Industrial Organization And Public Policy*, p. 210.

15. *The Economist,* "Wall Street tests its strength," p. 71.

16. *The Economist,* "Late nights in the M&A lab," p. 73.

17. Greer, *Industrial Organization And Public Policy*, pp. 212-221.

18. Dennis Ray, Rodney Stevenson, Roger Schiffman, and Howard Thompson, *Electric Utility Mergers and Regulatory Policy*, National Regulatory Research Institute, Occasional Paper #16, (June 1992), pp. 27-41.

This includes economic gains that produce pecuniary economies (monetary savings from buying inputs more cheaply) and technical economies (genuine cost savings since they imply fewer real inputs for a given level of output). Will more M&A lead to more efficiencies and therefore benefit the consumer? Greer concluded, "Virtually all the best evidence stacks up against the notion that the market for corporate control breeds efficiency. It creates larger firms, but size and efficiency do not necessarily correspond."[19] But many industry analysts argue for "bigger is better" or a minimum critical mass to ensure sustainability. Some analysts also see the possibility of niche players or specialized firms. These are variations on the efficiency theme, even though a larger size will not ensure that efficiency.

Finally, three other interesting arguments may emerge. First, claimed efficiencies can increase competition. Second, claimed efficiencies can be used to offset the effects of reduced competition.[20] And, finally, perhaps increased competition and reducing regulations may be greater than increased efficiencies of larger size (vertical integration or other combinations) if they occur and are realized.

2. Defensive Motives

Defensive motives are at work when an acquiring firm making a merger or acquisition does so in order to lessen its own chance of being acquired. Because of an industry trend to merge, some firms are more likely than ever before to find themselves forced to merge. For example, "the driving force in his [Stoppelmoor's] decision to merge [with WPL and IES Industries (itself the product of other recent Iowa utility mergers)] was the growing threat of acquisition,"[21] according to Interstate Power's Chairman, President and CEO, Mr. Wayne Stoppelmoor. Stated another way, "Unless a utility company succeeds as a niche player and is already among the two or three largest energy providers in a region, it probably will need to join forces with another energy company by early in the next century. And that means it had better begin courting its choice candidate, if it hasn't already."[22]

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19. Greer, *Industrial Organization and Public Policy*, p. 215.

20. Ibid., p. 229.

21. *Electric Utility Week*, "Merger of WPL and Iowa Utilities Aims At Fortifying New Products, Services", (November 20, 1995), p. 7.

22. James R. Pierobon, "Merging For Critical Mass," *Public Utilities Fortnightly*, (October 1995), p. 16.

3. Diversification

The two main arguments for diversification are:

" First, they allowed managers to draw off cash from well established parts of their firm and feed them to riskier operations with greater potential. Second, they were insulated from the business cycle: one part of the company might be battered but another part in an unconnected business would be doing well enough to carry the group through the rough patch.

Neither argument holds much sway anymore. The first has been demolished by the growth of global capital markets. Investors today want to decide for themselves which new businesses to speculate in, and what share of their money to invest in stable cash-generators, rather than leave this decision to some mogul. And, as business cycles have moderated since the roller coaster 1970s, the second argument has come to seem less important."[23]

An Edison Electrical Institute (EEI) study of 99 IOUs indicated that diversification defined as acquisitions by electric companies of non-electric firms is on the rise. The highest year was 1992, the last full year for which statistics were available. A recent Electric Power Research Institute (EPRI) article by Ingrid Bran cites "increasing competition, the limited growth of traditional utility business areas, stable cash flow, and globalization of the electric power business as reasons for the diversification trend."[24] Also, a larger size allows firms then to diversify. Benefits described in Bran's article include not only additional revenue sources, but getting closer to customers. However, some analysts advise that diversification be pursued cautiously, since "in the past, the late 1980's, only 15 percent of U.S. utilities making diversifying acquisitions achieved a positive return."[25] Moreover, Ravencraft and Scherer found generally poor results from all conglomerate mergers.[26]

4. Growth And Personal Aggrandizement

The Economist sees slow growth prospects for U.S. utilities. "Because of environmental worries and technical advances in energy efficiency, demand for electricity and gas in rich

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23. *The Economist,* "Demergers and acquisitions," (February 1, 1997), p. 65.

24. Ingrid Bran, "Diversification In The 90's," *EPRI Journal*, (July/August 1995), p. 16.

25. A. Serainka and D.A. Burkhardt, "Diversification: Proceed With Caution,*" Public Utilities Fortnightly*, (December 1992), p. 33.

26. David J. Ravencraft and F.M. Scherer, *Mergers, Sell-offs, and Economic Efficiency*, (1987), pp. 210-215.

countries will grow only slowly."[27] Mergers in developed countries can perhaps only be expected to pay off if costs are cut. More growth will likely be occurring in less developed countries.

Personal motives for M&A also play a role. Top executives tend to want to preserve their positions and increase their own compensations. Dr. John W. Wilson, in his new publication entitled "Merger Guidelines for the Electric Power Industry,"[28] makes this point.

5. Market Power

Vertical, horizontal, or conglomerate mergers can be motivated by a desire for increased market share and monopoly profits. These can come about due to higher prices, foreclosure (when a non-integrated business at one level is locked out of business at other levels with the vertically integrated firm), barriers to entry (which discourage entry due to high costs), reciprocity, and countervailing power, i.e., the enhanced ability to compete against other large firms.

6. Deregulation, International Competition and Other Causes

The drive to lower costs has been propelled by deregulation and international competition. The FERC, through the Public Utilities Regulatory Policies Act of 1978 (PURPA), and the EPAct has fostered the growth of independent generators and Exempt Wholesale Generators (EWGs). It has been estimated that "60 percent of all new generation will be non-utility generators in America. Large companies can now own cogeneration or have IPPs do it [generate]."[29] Another option available to large companies is to negotiate rate discounts in exchange for remaining with a utility. Achieving lower utility costs can help companies compete domestically and globally, and can thus be a factor leading to M&A.

M&A by utilities may occur in anticipation of disaggregation. M&A then would produce generation, transmission, or distribution units of sufficient size to survive a disaggregated market. Also, winners or strong firms would be looking for losers or weak firms that held undervalued assets. Losers or weak firms might seek firms to save them financially.

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27. *The Economist,* "Power playtime", (September 16, 1995), p. 72.

28. John W. Wilson, "Merger Guidelines For The Electric Power Industry,*" The Electricity Journal*, (January 1996), pp. 14-27.

29. Ibid., p. 72.

A recent survey, which appeared in the January 1996 *Electrical World,* identified the reasons for successful mergers. According to Mr. Doug Kimmelman of Goldman, Sachs Investment Firm, there are 10 rationales can be used to justify current and future mergers. The first 5 rationales which appear directly below are considered critical and share the fact that they are common to all mergers to date and will likely be common to all mergers in the future.

a. Cost reductions and improving competitive position. Federal and state approvals are required before a merger can be finalized, and the merger must demonstrate it is good for ratepayers and competition.

b. Earnings enhancements through synergies. Being able to reduce internal costs through synergies is a plus to shareholders.

c. Diversification of business to minimize risk. These include efforts to expand the utilities' retail and industrial customer base, spread the business risks resulting from regulation over several states, and widen the mix of generation fuels.

d. Enhancing size. Bigger will be better under competition, and bigger numbers on the bottom of balance sheets will support more diverse investment strategies.

e. Solving succession issues. All successful mergers to date have had a well defined management succession plan.

The next 5 rationales which follow are considered less critical for mergers, but all or some of them nonetheless have been and will be part of past, present and future mergers.

f. To reduce vulnerability to an unwanted takeover.

g. To lower a utility's dividend profile.

h. To offset exposure to stranded investment risk, by blending and averaging the risk of stranded assets.

i. To achieve premium evaluations. Because many electric utility stocks are overvalued, mergers can achieve a premium valuation for shareholders at the cost of slight loss of control.

j. To access higher growth, unregulated ventures. Given today's weak outlook for domestic earnings growth in regulated businesses, it makes sense for utilities to try to

enter unregulated energy businesses or make equity investments overseas, where growth--and, unfortunately, risk--are potentially higher.[30]

VI. Reasons for Failed M&A

Many M&A do not work, despite the claims to efficiency. Generally, failure would be more likely to occur if the merger was based on the wrong analysis or if implementation proves difficult.

Reasons given for failed mergers include:

1. "Inadequate due diligence by acquirers or merger parties
2. Lack of a compelling strategic rationale
3. Unrealistic expectations of possible synergies
4. Paying too much
5. Conflicting corporate cultures
6. Failure to move quickly to meld the two companies."[31]
7. Inherent "conflict of interest" in serving and competing with the same customer.

VII. Potential Costs and Benefits from M&A: A Review of Opinions[32]

A. Mr. Robert D. Stoner, former Deputy Assistant Director for Antitrust at the FTC

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30. Cate Jones, "Inside utility mergers: Trends within the trends", *Electrical World*, (January, 1996), p. 60.

31. Phillip L. Zweig, Judy Perlman Kleine, Stephanie Anderson Forest, and Kevin Gudridge, "The Case Against Mergers," *Business Week*, (October 30, 1995), p. 122.

32. Savings that otherwise could be achieved from mergers might partially occur as a result of a power pool. Some analysts have referred to power pools as quasi-mergers. However, Joskow and Schmalensee in *Markets for Power: An Analysis of Electricity Utility Deregulation* (1983) see power pools or other coordinating bodies as having the possibility of collusion which could inhibit efficiency.

Mr. Stoner reviewed the economic literature concerning efficiency and electric utility mergers, in particular work done by Messrs. Raymond S. Hartman (See "The Efficiency Effects of Electric Utility Mergers: Lessons from Statistical Cost Analysis," 1990) and by Dr. Paul L. Joskow and Richard Schmalensee. In theory, efficiencies for mergers could include systemwide scale economies, dispatch economies, diversity economies, density economies, maintenance economies, and reliability and emergency economies.[33] Stoner concluded: "Under certain circumstances, utility mergers can produce substantial cost savings. Mergers between relatively small utilities, or between utilities with different load patterns or fuel types, may produce significant savings. If these savings are not available without the merger, they are important counterweights to anti-competitive effects in an antitrust review. Under other conditions, however, cost savings are dubious and should be viewed skeptically by regulatory authorities. Scale efficiencies are unlikely in the case of mergers among large utilities."[34]

B. Dr. John W. Wilson of J.W. Wilson & Associates, Inc.

Dr. Wilson's "Merger Guidelines For The Electric Power Industry" views the recent merger wave as a product of strategic endeavors to repel or hold off competitive threats. He lists three motives for mergers and provides examples.

First, the "gatekeeper" or transmission control motive is apparent in some recent mergers. A successful merger undertaken to satisfy this motive enables a firm to control the flow of regional power. Some examples of mergers driven by the gatekeeper or transmission control motive are: the Baltimore Gas and Electric Company (BG&E) merger with its neighboring Potomac Electric Power Company (PEPCO); the "Primergy" NSP and WEPCO merger; the merger between Public Service of Colorado (PSCO) and Southwestern Public Service (SPS); and Union Electric's (UE) merger with the Central Illinois Public Service Company (CIPSCO).

Second, there is a distribution monopsony (single buyer, high buyer concentration or collusion on the buyers' side of the market) motive. By this, Wilson means that consolidation of distribution will create monopsony, i.e., it will help the buyer's market power position in the bulk power market. Without open distribution access (distribution unbundling and nondiscriminatory open access for all retail customers), argues Wilson, mergers among regionally dominant electric power distributors will lead to increased monopsony power in bulk power markets.

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33. M. Frankena and B. Owen (See Chapter 9 by Robert D. Stoner*), Electric Utility Mergers: Principles of Antitrust Analysis*, (October 1994), pp. 151-152.

34. Ibid., p. 163.

Third and finally, Wilson describes the generation motive for mergers. Merged distribution could favor larger generators that are part of their own system or those of other merged utilities' vertically integrated systems via informal reciprocity. Following such mergers, smaller operators may not be able to satisfy the large complicated needs of regionally dominant firms with large distribution networks.

C. *The Economist's* and *The Energy Economist's* Viewpoints

The Economist's view of U.S. mergers is that the profitability of generators has declined, so the lure of distribution (and perhaps transmission) has increased. "Distribution (transmission) is a natural monopoly, protected by law and by substantial economies of scale for big regional operators: hence the rash of mergers among neighboring electricity utilities in America."[35] In the U.K. also, most of the profits for Regional Electricity Companies (REC) come from the distribution network.

An *Energy Economist Briefing* commenting on the large number of American acquisitions in the U.K, some of which can be found on table 3, attributes this to "first, that the regulatory regime in Britain which is more relaxed than that of the U.S. and second, that there is a huge amount of stockholder value that can still be set free from regional suppliers. On the second point, the level of profitability extracted by the regional utilities has largely been created by 'downsizing' the workforce that formally belonged to the state area boards. Leaving aside the obvious point that this reduction has put a huge charge on the state as a result of the need for social security provision, it is doubtful that a second round of job reductions will be possible, yet at the prices paid for utility purchases, some reduction in workforce has to be inevitable. At some point, the conflict between operational effectiveness and the demand for a high return has to come to the fore."[36] The Briefing goes on to cite the lack of supervision of OFFER, the U.K. electric utility regulator, in the area of outages in the distribution system which are growing. Outages relate to manpower levels which have had cuts. Another round of cuts might cause further problems.

In the U.K., British Gas decided to divest (February 1996). They hoped to improve the focus of the firm similar to what AT&T has recently done. The new firms will be British Gas Energy which will run the supply business in Britain as well as two gas fields, and TransCo International which will takeover its foreign operations, other exploration and production assets, and the pipeline.

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35. *The Economist*, "Power playtime," p. 71.

36. *The Energy Economist*, "British Energy Policy," Energy Economist Briefing, (February 1996), p. 5.

The Monopolies and Merger Commission sent its report on two proposed mergers, Power Gen for Midlands Electricity ($3 billion) and National Power for Southern Electric ($2.8 billion), to the Secretary of State for Trade and Industry according to *The Economist,* and recommended that they be allowed. The report felt that the benefits of vertical integration would make the companies more effective international competitors because of greater skills and experience. *The Economist* took issue with the report since "permitting these huge mergers between generators and distributors is likely to reduce competition in a market in which there is already too little, keeping prices high and making the regulators' task harder."[37]

On April 25, 1996 the British Government blocked two big mergers in the electric industry mentioned above. The reasons for the decisions cited were the difficulty to regulate prices and discouragement of new entry into the market leading to higher prices. It was felt that this decision would increase the possibility of a merger between the U.S. Southern Company which acquired British gas and electric supplier South Western Electricity, and National Power of the U.K. The U.S. firm is hoping to buy the U.K. firm.[38] *The New York Times* reported on May 2, 1996 that the British Government will not permit takeovers of the nation's largest utilities, National Power or Power Gen, at least until the electricity market in England and Wales becomes more competitive. This seems to block the possibility of the Southern Company's (U.S.) possible bid for National Power.

Southern Electric PLC topped Scottish Power's bid for Southern Water PLC for $2.42 billion in the take-over frenzy that characterized the U.K. Utility sector. "Deregulation and cash-rich balance sheets have prompted a wave of mergers among electricity and water companies, and analysts say more are likely. Combination utility operations is appealing to companies as a way to cut costs by combining administrative operations such as billing and marketing. Of Britain ten regional water companies, three have already merged or have been taken over."[39]

D. Mr. James R. Pierobon of The Potomac Communication Group, Inc.

Mr. Pierobon sees mergers resulting from a desire to cut prices, squeeze out wasteful overhead, create new products, and grow shareholder value. By the year 2000, he anticipates that the

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37. *The Economist,* "Britain's electricity shocker," (April 13, 1996), p. 14.

38. Stephanie Strom, "British Reject Power Mergers, Sending Utility Stocks Down," *The New York Times*, (April 25, 1996), p. C5.

39. Matthew Rose, "U.K. Power Firm Agrees to Acquire Water Utility," *The Wall Street Journal*, (May 30, 1996), p. A11.

number of firms in the industry will be reduced by fully one-third, as a direct result of future mergers and acquisitions.[40]

E. Perspective of Mr. Agis Salpukas of *The New York Times*

Mr. Salpukas views domestic mergers as vehicles through which a firm can cut costs to become a low cost provider, in order to survive in the long run. Commenting on the recent KCP&L and UtiliCorp merger for $3 billion, he quotes Alan Brew of Addison, Seefeld & Brew: "as the utility industry consolidated, the companies that would do well would be those that could offer more than low cost power. The shift will be to what the consumer wants and how they want it. Companies like UtiliCorp, which is one of the first utilities to offer a bundle of services under a brand name, will be in a better position to compete."[41] The merged utility hopes to market gas and electricity nationwide.

Many utilities are "seeking to grow abroad because deregulation of the electricity industry in the U.S is increasing competition and limiting expansion possibilities. The Americans are there [in other countries] seeking higher returns and faster growth overseas."[42] In a subsequent *New York Times* article about U.S.-International mergers, Salpukas commented on the apparent rush to acquire British and Australian firms. He cited the utilities' following reasons:

1. add to earnings with profitable acquisitions

2. the more favorable regulatory climate

3. access to excellent operations to learn from

4. acquirers foresee higher profits in distribution as competition becomes more widespread in generation.[43]

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40. James R. Pierobon, *Public Utilities Fortnightly*, (October 15, 1995), p. 16.

41. Agis Salpukas, "UtiliCorp in $3 Billion Deal With Kansas City Power," *The New York Times*, (January 23, 1996), p. C2.

42. *The New York Times*, "Two Texas Utilities Seek British Acquisition," (September, 29, 1995), p. C3.

43. Agis Salpukas, "Two U.S. Utilities Seek Counterparts Abroad," *The New York Times*, (November 7, 1995), p. C4.

F. Messrs. Edward J. Tirello, Jr., Senior Vice-President of Nat West Securities/Jonathan B. Welch and Ms. Marjorie B. Platt, Professors at Northeastern University

Analysts who have argued for horizontal mergers have based their conclusion on 4 main points:

1. "the wide disparity in prices paid for electricity across the United States

2. the significant differences in financial conditions of investor-owned utilities

3. the perceived availability of excess generation and transmission capacity that could be used in a competitive bulk power market or that could be used to defer capacity additions by utilities that are capacity short

4. the reported cost savings achievable by integration through merger."[44]

Mr. Tirello has long been an advocate of the bigger is better philosophy.[45] He sees mergers "as the best way to improve efficiency and gain market share."[46] He projects a need for cost reductions in the order of "20 to 30 percent for the (U.S.) industry to even begin to operate in a competitive environment."[47] Earlier work in 1988 and 1989, "Electric Utilities: The Case for Consolidation", provided some foundation for Tirello's view. The latter study showed annual cost savings of $3.6 billion, annual savings per customer of $49.66, power cost reduction of 0.193 cents per kilowatt-hour, and one-time savings of $15.9 billion from surplus asset liquidation. These studies were conducted under the aegis of Experimental Engineering Corporation (XEC), an outside consulting firm. After the PSCO and SPS merger in August 1995, Tirello predicted 20 more mergers during the following 12 months, indicating that his past work was proving relevant.

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44. Dennis J. Ray and Howard E. Thompson, "`Fifty in Five': The Prospects for Merger in the Electric Utility Industry," *Journal of Regulatory Economics*, (Kluwer Academic Publishers, 1990), p. 111.

45. See also J. B. Welch and M. B. Platt, "The future of electric utility mergers in the USA," *Utility Policy*, (October 1994), pp. 253-260.

46. Mary O'Driscoll and Ed Tirello, Jr., "Natural Gas May Be First Casualty In Electric Deregulation," *The Energy Daily*, (June 27, 1995), p. 1.

47. Edward J. Tirello, Jr. and Barbara Coletti, *The New Order In The Electric Utility Industry*, (April 11, 1994), p. 24.

In the future, Tirello sees 9 regional holding companies in the U.S. Each would have 3 - 5 generating subsidiaries, separate transmission and distribution, and a wide range of communication services for consumers such as voice and data links and cable TV. Price cap or revenue cap regulation will exist.

Tirello further develops the rationale for his position by noting the strategic benefits of mergers. He agrees that, "Everybody's going to be asking for transmission under EPAct. The only way to compete is to be big and flexible... Otherwise your neighbor (competitor) can match every move... Just being the low cost producer doesn't cut it because big, financially flexible utilities with excess capacity can cut rates to market price and take customers away from smaller competitors... Smaller utilities will (then) combine to reach optimum size, which may vary depending upon circumstances."[48]

Commenting on obstacles to mergers, Tirello notes that "merger savings should be split 50-50, but usually more goes to the ratepayers than shareholders. If savings aren't split profitably, just withdraw the offer. Tirello lamented the long regulatory process estimating 18 to 24 months to complete a merger."[49] Currently, California "state law requires that half the economic benefits of a utility merger go to customers."[50]

Welch and Platt in "The future of electric utility mergers in the USA" suggested that mergers could improve the performance of the electric utility industry. Employing statistical analysis, they determined that the acquiring utilities tended to have excess capacity, used a variety of fuels and held stronger financial positions, while target companies had greater efficiency but also greater risks. Net benefits could then result from spreading excess capacity over new customers or limiting new investments, lowering the cost of capital due to a stronger financial status, and achieving diversification benefits. Welch and Platt recommend that regulators should encourage favorable M&A, while guarding against market power abuses like those that occurred during the 1920's and 1930's.

G. Dr. Charles Studness, contributor to *Public Utilities Fortnightly*

Mr. Studness, commenting on the recent U.S. merger trend, pointed out that in the past, the Public Utility Holding Company Act of 1935 (PUHCA) provided protection from mergers;

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48. Mark T. Hoske, "Mergers aim to augment utility competitiveness, benefits abound, quantification remains difficult," *Electric Light and Power*, (July 1993), p. 11.

49. Ibid., p. 12.

50. Associated Press, "Changes sought in rebates," *The Sacramento Bee*, (March 16, 1997), p. A4.

while at the same time, utilities were refraining from striving to increase efficiency due to cost-plus ratemaking. However, with the amendments to PUHCA in the EPAct, EWGs could be created, such that any company could build a power plant to sell power on the wholesale market and not be subject to regulation. Studness foresaw an initial proliferation of mergers, but anticipated that the law of diminishing returns would eventually set in. Hence, the initial rush to merge would be impressive, but in time it would slow.[51]

H. Messrs. Dennis J. Ray and Howard E. Thompson of The University of Wisconsin-Madison School of Business and Dr. Ross Baldick of the University of Texas at Austin

Some industry analysts (especially Mr. Tirello) in the late 1980's saw a new wave of horizontal mergers that would reduce the number of major electric utilities to fifty in five years. "By analyzing four case studies of merger attempts (1. Cleveland Electric and Toledo Edison, 2. PacifiCorp and Utah Power and Light (UP&L), 3. SCE Corporation and San Diego Gas and Electric (SCE/SDG&E) and 4. WPL Holdings [the parent of WPL and Madison Gas and Electric) between electric utilities, we (Ray and Thompson) conclude that there are not strong incentives for a wave of combinations in the industry. Potential synergies (joint capital planning and operations, and local service personnel) do not provide a strong motivation since they are likely already being captured through joint ventures and coordination agreements. (This is a point made by Joskow and Schmalensee in their work.) Those that still exist would most likely be distributed to ratepayers by regulatory decisions. Managerial incentives of the bidder are countered by the desire of target management to remain independent. Potential gains to the financial community from a wave of mergers are large, but the regulatory process provides a dampening of this otherwise strong incentive."[52]

Dr. Baldick commenting on efficiency through mergers versus sales makes the following points:

"Historically, the clubby relationship between utilities and the airing of major decisions at regulatory forums has allowed the protagonists to exchange information about long- and short-term plans as part of the regulatory process. This has presumably facilitated purchase and exchange deals by putting information 'on the table' well in advance of capital commitments.

"Naturally, rate of return regulation has provided less-than-ideal motivations to pursue the most efficient deals. Therefore, it is somewhat unclear whether or not all benefits of purchase and

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51. Charles M. Studness, "Electric Utility Mergers More Likely As Competition Spreads," *Public Utilities Fortnightly*, (February 15, 1993), pp. 43-44.

52. Ray and Thompson, *Journal of Regulatory Economics*, p. 111.

exchange agreements have been exploited. In principle, under open access, there will be much more motivation to pursue efficient deals, both:

- to reduce the operating costs of current capital stocks, where such opportunities exist, and,
- to improve the planning of capital expenditures.

"However, the exchange of information will be much more limited. For example, antitrust regulations will presumably prevent the exchange of sensitive planning and operations information between parties that are supposed to be competitors. Open access may therefore radically change the relative value of power purchase and exchange agreements relative to the value of mergers and acquisitions. I would expect the value of power purchase and exchange agreements to be reduced unless there is some way to convey the information that has traditionally been on the table at regulatory settings."[53]

Electric utilities are not limited to M&A. They are also attempting to increase profits through partnerships such as alliances and joint ventures, which are apparently on the rise in the rush of firms to position themselves in a more competitive future. For example, the Los Angeles Department of Water and Power (LADWP), the Energy Management Services (EMS) unit of Pacific Enterprises, and Southern California Gas Company (SoCalGas), another Pacific Enterprises subsidiary, will offer integrated energy management services to customers in LADWP's service territory.[54] Similarly, a Dallas electric power utility (a holding company) exercised its right to move into the telecommunications market under the new telecommunications law (1996), making it the first public utility to do so. Central and Southwest Corporation of Dallas wants to open its company's fiber optic and cable network to providers of telephone, Internet, cable television and other services by leasing its underground cables. The lines are now used to connect the company's computers with customer monitoring devices.[55] This is an example of inter-industry competition.

Finally, Ray et al. looked at electric power mergers and concluded that:

1. the electric power industry has participated in only 2 of the 4 merger waves (as of 1992);

2. in the past, electric mergers often involved consolidation of small utilities;

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53. Ross Baldick, Personal letter dated February 7, 1996, pp. 1-2.

54. *The Energy Daily*, "The Electric Utilities Seek to Generate Profits Through Partnerships," (January 19, 1996), p. 1.

55. *The New York Times*, "Dallas Utility Seeks to Lease its Underground Cables" (February 15, 1996), p. C4.

3. recently, there has been an increase in merger activity of the largest firms in the industry. It is likely that the economies of scale have been exhausted in larger utilities, and many of the motives are not consistent with the public interest standard of regulation.[56]

I. Mr. Peter Navarro, Associate Professor of Economics and Public Policy at the University of California at Irvine

Mr. Navarro's perspective in "Electric Utilities: The Argument for Radical Restructuring" calls for merger guidelines, aggressive antitrust, and a coordinated policy on deintegration by the Department of Justice (DJ), the Department of Energy (DOE), and FERC that will impact M&A. Mr. Navarro wants to ensure that M&A promote competition especially in generation. He recognizes cost-cutting opportunities from U.S. utility M&A, but notes that size alone will not guarantee success. He sees additional competition for utilities from a variety of specialists and niche players such as brokers, marketers, municipalities (about 25 other communities are seeking this status), retailers, generators and non-profit groups such as hospitals and consumer cooperatives.[57]

J.Mr. Lawrence J. Makovich, Associate Director of Cambridge Energy Associates

Mr. Makovich argues that mergers are largely guided by cost savings and not manpower or operating synergies since they do not produce large benefits. He sees mergers reducing cost structures for 3 major reasons:

1. Diversification of the fuel mix for power generation. Under regulation, fuel adjustment clauses are used to transfer fuel-price risks to customers--but that tool won't be available under competition. Accordingly, some mergers aim to shift price risks back to producers by improving fuel diversity--seeking a merger partner who feeds different fuels to his stable of powerplants.

2. Undervalued assets, the flip side of stranded assets. Some utilities have largely depreciated low cost generating units that will be worth more than their current rate-based value in a

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56. Dennis Ray, Rodney Stevenson, Roger Schiffman, and Harvard Thompson, "Electric Utility Mergers and Regulatory Policy," National Regulatory Research Institute, (June 1992), p. 1, 19 & 25.

57. Peter Navarro, "Electric Utilities: The Argument For Radical Deregulation," *Harvard Business Review*, (January-February, 1996), pp. 122-124.

competitive environment. Mergers allow acquisition of such assets before an upward competitive evaluation can take place.

3. T&D systems. It is still unclear how utilities will be compensated for use of their T&D systems for retail wheeling. However, mergers are a way of stocking up on an unknown but potentially valuable commodity: grid miles.[58]

K. Mr. Richard J. Pierce, Jr., Professor at the George Washington University School of Law.

Mr. Pierce's view of mergers in the electric power industry reflect caution. "FERC should proceed with extreme caution in approving any consolidations of generating assets. After a few years of experience with competitive wholesale markets, FERC will have access to the data required to make reasonably viable estimates of the geographic scope of the market relevant to a proposed consolidation, the relationship between market concentration and market performance, and firm level economies of scale in performing generating functions."[59] FERC should then promote competitive wholesale markets and review and provide data for a future policy on M&A in the generating sectors. So initially, "FERC should adopt a merger policy in which it resolves uncertainties with respect to the geographic scope of the relevant market in favor of the smallest plausible market."[60]

L. Dr. Robert L. Michaels, Professor of Economics at California State University, Fullerton.

Dr. Michaels argues that mergers are costly and unneeded since the best option under competition is likely to be de-integration and niche business. Merger cost savings are small when discounted; and the rationale to serve worldwide markets is inapplicable. Unbundling in competitive markets will not favor size.[61]

In another article, Dr. Michaels comments on the FERC NOI on merger policy. He makes the following points:

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58. Cate Jones, "Inside utility mergers: Trend within the trend", pp. 59-60.

59. Richard J. Pierce, Jr., "Slow Down the Mega-Merger Feeding Frenzy," *The Electricity Journal*, (January 1996), p. 13.

60. Richard J. Pierce, Jr., "Antitrust Policy in the New Electricity Industry," *Energy Law Journal*, Volume 17, No. 1, (1996), p. 47.

61. Robert J. Michaels, "Electric Utility Mergers: The Wrong Strategy at the Wrong Time," *The Electricity Journal*, (January 1996), pp. 28-35.

- The 1992 DJ Horizontal Merger Guidelines are an imprecise tool. Tomorrow's electricity markets will be unlike today's. Specifically, the DJ Guidelines are not able usefully to assess market share and concentration:

  1. The Herfindahl-Hirschman Index (HHI) numbers are suspect. They are neither derived from economic theory nor statistical evidence. Studies of concentration's influence on price exists for only a few industries and often there is no association. Empirical relationships to electricity remain uncertain.
  2. Relevance is questionable since guidelines are difficult to apply to emerging markets.
  3. Geography is ambiguous since market areas and market power will change as future trading patterns merge.
  4. Software (computer models) for use in assessing upcoming mergers may be more of a problem than a solution.

- Mergers may produce collusion, or may create firms large enough to capture economies of scale, take on risks of aggressive competition. One should then look at the net impact of the probability of collusion versus more aggressive competition and other associated benefits.
- FERC Order 888 forms the basis of a sound merger policy. Unless there is price-fixing, open access should mitigate market power. Alternative generation can come over alternative transmission lines. Open access for gas pipelines over the last 10 years has unified gas markets and helped develop new market instruments. It can do the same in electricity.
- Mergers and supplier market shares may impact market power less than institutions governing markets. Thus, mandatory pools in which sellers receive the pool price rather than individuals' bids which are transparent or can be inferred will foster aggressive competition.[62]

M. Dr. Paul Joskow, Professor of Economics at Massachusetts Institute of Technology

Market power problems in the future for FERC relate to generation ownership in a region. In the short run, some regions will not be competitive in existing generation where there are not enough competitors and if transmission constraints limit the geographic scope of the market. Transition contracts and price caps are possible mitigation strategies. Also, it is likely that many vertically integrated utilities will have less generation by spinning off or selling existing capacity to get stranded cost recovery. Generation separation will be a way to gain FERC approval of mergers to mitigate horizontal market power and receive market based prices. A growing national and

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62. Robert J. Michaels, "Mergers and Market Power: Should Antitrust Rule?," *Public Utilities Fortnightly*, (October 15, 1996), pp. 42-44.

international generation market will accompany some utility separation of generation fostering competition in relevant domestic geographic markets.[63]

N. Mr. Randle Smith and Ms. Nancy Hinrichs of Duff and Phelps

Smith and Hinrichs in their recent study (1996) "Mergers and Acquisitions: Superior or Inferior Performance," looked at M&A which they view as positive in the long run. They also focused on "competitive mergers with an operating history of at least two years which have been mostly disappointing based on total returns to investors, i.e., superior performance, price appreciation plus dividends -- outperform the Duff and Phelps Electric Index (DPEI).

Their study further noted that the buying company's stock is less likely to outperform the DPEI while premiums on the selling company's stock offer the best opportunity for outstanding performance of investors. In addition, the surviving company's ability to generate superior returns will largely depend upon regulatory treatment.

Management's goal should be to translate the increased competitiveness into enhanced investor returns. If management cannot assure investors that returns will be enhanced by the combination, then the transaction should not be effectuated.

The initial two-year period after the merger closes is considered to be the most meaningful because investment performance is more heavily influenced by consolidation, the study states. As time passes, other factors become increasingly important."[64] They view short run investor benefits as limited, but long term M&A will be good for the industry from an operational standpoint.

Smith and Hinrichs go on to note that two main issues are future rates and cost savings. They point out that regulators usually allocate fuel and deferred capacity cost savings to ratepayers. Non-fuel O&M savings are split between ratepayers and shareholders. Several mergers, according to Smith and Hinrichs, have proposed Performance Based Ratemaking (PBR). This is viewed as an improvement over Cost Based Regulation (CBR) since cost savings would be split after a target return on equity is reached. They felt that a better approach would be Price Cap Regulation (PCR) since regulating prices not costs would provide shareholders incentives to benefit from efficiencies. This would provide utilities with greater incentives to merge.

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63. Paul Joskow, "How Will It All End? The Electric Utility Industry in 2005," *The Electricity Journal*, (January 1996), pp. 70-71.

64. *Electric Utility Week*, "D&P Analysis: Mergers With Two-Year History 'Mostly Disappointing' So Far," (March 4, 1996), pp. 13-14.

Smith and Hinrichs commented that FERC has an open access and may require a higher standard for mergers to counter market power. They view a stricter FERC merger standard as having a negative impact on mergers. Also, they advocate that the FERC have fewer regulations, and cut its review time for a transaction.

O. Ms. Claire Mencke, Investor's Business Daily

Deregulation and increasing number of mergers are affecting bond investors. The result has been that "the uncertainty has made investors shy away from utility bonds, lowering their prices and pushing up their rates. But critics say the higher rates aren't enough to compensate the bond holders for the risk they are taking."[65]

P. Mr. Sandy Miller of the California Energy Commission

Mr. Miller has offered some interesting analysis on distributed generation (DG), new technology and its impacts on M&A. EPRI has defined the strategic use of generation units at or near the premises of electric utilities as DG.[66] This extends our discussion beyond an historical perspective to a future oriented qualitative approach.

Mr. Miller argues that: "Some utilities may view DG as another market they can enter and control, especially if they can sign long term contracts with customers. DG may be a way of expanding into service areas of other utilities without having to string lines. For base load and intermediate load generation, cogeneration will likely remain a least cost generation addition. For peaking supplies, DG in the form of simple cycle gas-fired turbines with efficiencies above 40% will define upper boundaries of prices. Mergers among utilities and cogeneration-based independent power producers (IPPs) appear to be a probable result. Having a diverse supply mix allows a more stable, guaranteed cash flow, a better income statement, and more strength in the market place. As long as utilities can minimize the carrying costs of existing plants, they will opt to hold onto as many plants as possible. Even if utilities are forced to give up their holdings to unrelated companies, it would be natural for the utility to eventually buy back certain plants which meet their long term plans and strengthen their cash flows.

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65 Claire Mencke, "Its A Risky New World For Utility Bonds," *Investor's Business Daily*, (January 17, 1997), p. A1.

66 Leslie Lamarre, "The Vision of Distributed Generation," *EPRI Journal*, (April/May 1993), p. 7.

"DG may also put a cap on the cost of distribution through competition. The regulated distribution company may not be able to pass on all costs of distribution to customers if the customers have DG as an alternative. Utilities may continue to be oligopolies in generation and DG while enjoying the protection regulated transmission and distribution segments."[67]

Mr. Miller also believes that technology advancements in DG could also change the face of the electricity market by dramatically reducing the cost of electricity generation. He notes that one technology with enormous potential is the Proton Exchange Membrane (PEM) fuel cell. Recent advances in power density and cost reduction could allow residential and small commercial customers the capability of generating electricity at or below existing retail rates. "Some electric utilities may already view DG as a new market opportunity. Instead of fighting a new technology, innovative companies will incorporate the technology in with their product mix. An electric company is a logical company type to monopolize the DG market. With a tremendous potential for cost reduction, the ability to reap large profits from DG is possible."

"In conclusion, DG could be a wild card for the electric industry, exerting a cap on electric costs with in services areas and a means for utilities to enter and compete in other service areas. If fuel cell technology continues to advance or another technology such as photovoltaics becomes affordable, a new paradigm will change completely the electric industry. To the degree industries can control development and/or market, mergers will come into play, particularly whenever there are patents and licenses which can be used to control development."[68]

Q. Dr. Charles Cicchetti, Managing Director of Arthur Anderson

Dr. Cicchetti at a March 15th (1996) conference on mergers sponsored by *Electric Utility Week*, sees mergers as a cost-effective way to buy customers. For example, electric utilities are buying gas utilities to get customers cheaper (less capital intensive) than electric customers. In short, Dr. Cicchetti's perspective is that "utility mergers are increasingly viewed by most utility executives as means to grow customers and sales. It may be less expensive to buy new customers through a merger than by marketing."[69]

Other reasons for mergers besides gaining customers are a convenient excuse to freeze rates or to gain regulatory approval of some other forms of performance-based rate making. (This means

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67. Sandy Miller, Personal letter dated March 20, 1996, p. 1.

68. Ibid, p. 2.

69. *Electric Power Alert*, "Analyst Seeks Clear Merger Rules, Sees IOUs Wedding Gas Companies," (March 27, 1996), p. 16.

shareholders gain from necessary downsizing and re-engineering). (Also) mergers provide a reason to justify stock price increases. Cicchetti makes the following additional points:

1. The FERC should focus on retail customer acquisition not market power in generation. Requiring an ISO (Independent System Operator) with a merger will help enhance competition.
2. There are other alternatives to mergers, i.e., strategic alliances, joint ventures and outsourcing.
3. The FERC and utilities should focus on competition, not just consolidation.[70]

R. Mr. Jim Rogers, President and Chief Operating Officer, Cinergy Corporation.

Mr. Rogers views mergers as providing a comprehensive service to consumers. "Consumers may find it appealing to have their electric, gas service, and possibly home security consolidated and provided by the same company. He believes companies may be able to provide a rate discount by bringing all services under one bill."[71]

S.Senator Edward Kennedy, Massachusetts.

Senator Kennedy recently introduced "tax legislation which would disallow tax deductions for interest paid to finance mergers and acquisitions. It would broaden antitrust laws so that when a potential merger was challenged in court, the judge would have to consider not only its effects on competition but also 'the interests of workers and local communities.'"[72] The bill would impact electric power mergers and would provide a broader set of criteria to evaluate them. It hopes to discourage layoffs that result from mergers.

T. Mr. Carmen D. Legato, partner and head of the energy practice law firm of White and Case.

Mr. Legato sees anticompetitive impacts of electric power mergers. He concludes that the relevant geographic market will be an area in which a single, area-wide transmission price is charged. Moreover, "it (in the article cited) concludes that this area and, hence, the relevant market will likely span an area no larger than the Mid-American Interconnected Network (MAIN), or the Virginia/Carolina (VACAR) subregion of the Southeast Regional Reliability

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70. I.M.Anonymous, II "Primary Mergers: An Insider's Guide," p. 2.

71. Ibid., p. 16.

72. Adam Clymer, "Kennedy Introduces Measures to Cut Layoffs From Mergers." *The New York Times*, (April 16, 1996), p. A10.

Council. Assuming markets of this size, the data on resulting concentration will show severe consequences for mergers of the sort that were announced in 1995 and 1996."[73]

Forecasting the mergers of the future, Legato sees:

1. Further consolidation of T&D which will continue to be regulated

2. Acquisition by generating companies of generating assets in other geographic areas

3. Mergers of vertically integrated companies may be required by regulators to separate generation, transmission, and distribution. They may also have to divest a portion of their generation.

U. Mr. Douglas Hawes, senior partner in charge of utility M&A at LeBoeuf, Lamb, Greene, and MacRae.

In an October 1995 article in *The Electricity Journal* entitled "Electric Utility Mergers and Acquisitions Seen in a Larger Perspective," Mr. Hawes made the following major points:

1. More merger deals may be based on synergy savings and critical mass.

2. Mergers are only one response to competition which will see lower earnings and dividends. They blunt the impact of competition by providing synergy savings to increase earnings as competition cuts revenues.

3. Diversification (in the 90's limited to the core of business) and overseas investments will not likely offset the loss of revenues from competition.

4. Disaggregation will likely come after mergers.

5. Mergers are only a partial hedge against competition and we will see 10 years of better prices for customers and harder times for shareholders.

V. Dr. Mark Frankena, senior vice-president of Economists Incorporated.

Dr. Frankena provided the following advice regarding FERC's merger NOI: "FERC's approach should be brought into line with economic analysis and the approach taken by the

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73. Carmen D. Legato, "Electric Mergers: Transmission Pricing, Market Size, and Effects on Competition," *Public Utilities Fortnightly*, (June 1, 1996), p. 23.

antitrust agencies' Merger Guidelines.[74] This includes giving more attention to the market structure of non-merging firms, a FERC preliminary investigation, an analysis of competitive effects, and reevaluation of Orders 888 and 889.

VIII. Implications for the Western Regional Power Market

The Western System Coordinating Council (WSCC) consists of 80 members and affiliate members (see tables 4 and 5). Among the members, there are many of the largest U.S. power companies in the 11 state area (also included are 2 Canadian provinces and a small portion of Mexico). Some of the nation's largest power providers in the WSCC (many of which are in California) include PG&E, SCE, SDG&E, LADWP, PacifiCorp (which operates in Northern California), BPA and WAPA.

In the WSCC, PacifiCorp is the number 3 seller of the top 20 of wholesale power for 1994 in the U.S. SCE and PG&E are one and two respectively in the top 20 purchasers of wholesale power for 1994, with Puget Sound Power and Light Company (PSPL) number 5.[75]

Future M&A in the WSCC or by WSCC firms might include:

1. take-overs of weak companies by financially stronger ones

2. acquisition of privatized government operations, e.g., WAPA

3. joint gas and electric companies

4. purchase of divested company assets (to mitigate market power)

5. expansion of municipal utilities as a source of countervailing power to IOUs

6. firms outside the WSCC, domestic and/or international, may enter the WSCC market through M&A WSCC firms may enter non-WSCC domestic and/or international markets through M&A.

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74. Mark W. Frankena, "FERC Must Fix Its Merger Policy," *The Electricity Journal*, (October 1996), p. 43.

75. Robert Smock, "The Top 100 Electric Utilities," *Electric Light and Power*, (October 1995), p. 11.

Joint ventures and alliances, discussed earlier, were beyond the scope of analysis in this paper, but they could also play a role in a deregulated regime as the WSCC interacts with other non-WSCC regions. Examples of alliances include the 1/15/97 Enron/Northern California Power Agency (NCPA) to manage the agency's supply and energy sales and the 2/7/97 proposed LADWP Board of Commissioners proposed strategic alliance with Duke/Louis Dreyfus (D/LD) to provide commodity trading, electric system operations, and wholesale marketing. The Oglethorpe Power Corporation (a supply cooperative) and Louisville Gas & Electric (LG&E) Energy Corporation on 11/20/97 signed a 15 year energy supply agreement that set the pattern for co-op and muni transactions with the private sector which the Enron, D/LD alliances fit. Other examples of joint ventures include regional transmission groups (RTGs) and bid price power pools, and the Association of California Water Agencies (ACWA) proposal (December 1995) to form a utility service agency to act as wholesale buyers and possibly sellers of electricity, natural gas, energy efficiency services, telecommunications, and other utility functions.[76]

The WSCC interacts with other regions undergoing the M&A process. As an example, while not strictly putting forth a merger or acquisition policy, PacifiCorp, a product of a merger, in May 1995, announced a national strategy to pursue and make national management and marketing deals. Indeed, in March 1996, PacifiCorp signed an interim agreement through a subsidiary, PacifiCorp Kentucky Energy, to lease and sell power from Big River Electric Corporation plants in Kentucky. In January 1996, UtiliCorp and KCP&L proposed a merger to form a new utility which seeks to market gas and electricity nationwide. This would presumably include the WSCC market.

On July 22, 1996 Enron proposed to acquire Portland General Corporation (PGC). This could affect California in the following way: "Enron could cull a stronger position in electric futures trading. Portland General's power lines sit astride transmission grids on the California-Oregon Border and in Palo Verde, Ariz., which mark delivery locations for two new electricity contracts based on the New York Mercantile Exchange. Enron will have the capability for the first time to make physical delivery against the future contracts, its trading."[77] Also, it may set a merger trend

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76. For a comprehensive discussion of restructuring activities such as early retirement, voluntary separation, involuntary separation, mergers, cost cutting measures, joint ventures, formation of subsidiary holding company, corporate reorganization, and overseas activities see Edison Electric Institute's Economics and Planning Department, *Electric Utility Restructuring Activity December 1994-December 1995*, No. 74, February 1996.

77. Allanna Sullivan, "Enron Deal Signals Trend in Utilities," *The Wall Street Journal*, (July 23, 1996), p. A9.

since "there is a convergence under way between the gas and electricity industries."[78] In short, from a California perspective, the transaction will provide Enron with access to the lucrative California electricity market with cheap power from federal dams in Oregon and Washington and a chance to increase its profits from electricity futures trading. The new firm will be the largest gas and electric utility in the U.S.

Mr. Studness views the proposed merger as representing a new phase of aggressive utility competition. Enron and others will probably be striving to become national energy companies in the production and marketing of gas and electricity.[79]

The Enron-PGC transaction may raise the issue of market power and manipulation. It might work in the following way: Most manipulation appears to be done by participants who are "long on the market, meaning they have purchased futures contracts. The mechanism of manipulation works by such parties demanding "excess" deliveries, i.e. not closing out positions financially. Two factors contributed to this manipulation substantially. First, if transportation costs lead to increasing marginal cost of delivery, the longs can force extra costs on the shorts who are called to deliver. This induces the shorts to pay a premium to liquidate these contracts, allowing the long manipulator to see some of his contracts at excessive prices. Second, longs holding assets are better positioned to manipulate than those without these assets. Using storage is a way that longs can simultaneously enter the cash market and influence spot prices that shorts may face in having to deliver their contracts to the longs.

These concepts have significance for the electricity market in a number of ways. First, they point to congestion in the transmission network as a source of market power for manipulators. If a long manipulator has some influence over congestion in the transmission network, his market power is even greater. Large buyers of future contracts who hold transmission assets are in a position to manipulate the delivery process by raising the cost of transportation if they are appropriately situated in the bulk power network. The second channel of manipulation, which complements the first, is the use of storage to raise price in the spot market. This point emphasizes the considerable value that storage assets would have in a more competitive, commoditized electricity structure. Even though storage plays a small role in electricity today, it is not negligible entirely, i.e. there are significant storage assets in California and the Western System."[80] PGC owns part of the DC tie with California which make it more difficult to

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78. Ibid., p. A3.

79. Charles M. Studness, "Converging Markets: The First Real Electric/Gas Merger," *Public Utilities Fortnightly*, (October 1, 1996), pp. 21-22.

80. Edward Kahn, Hugh Outhred, and James Bushnell, *Bulk Power Market Study*, UCEI Interagency Agreement 700-93-003, PWP-026, (1995), pp. 69-70.

coordinate activities to congest the transmission network. With a strong, independent ISO, transmission market power should be mitigated and FERC Order 888 and 889 should also help. PGC has pledged to join a northwest ISO called IdeGo made up of 10 members serving seven states. PGC is a medium sized electric power company which owns hydroelectric power resources which can be operated through the management of water flow, but does not operate them as pumped storage facilities.

While past mergers and current mergers appear on table 2, table 6a presents the major announced reasons for past mergers.

Two WSCC members, Washington Water Power Company and Sierra Pacific Power Company (WWPC and SPPC which has operations in California) were proposing to merge into the Resources West Energy Company in order to eliminate operating redundancy and to provide synergy benefits. On June 28, 1996 this proposed merger was terminated by WWPC because of irreconcilable differences with federal regulators. Another WSCC member, PSPL is proposing to merge with Washington Energy Company in an effort to provide cost savings through a joint gas and electric company concept. Savings are expected to result from combining operations, e.g., joint billing, meter reading and customer installations, and from reductions in staffing.

In 1991, the CPUC denied the SCE/SDG&E merger because it failed to prove net benefits to ratepayers in the long run and would harm competition in generation and transmission among utilities. Additionally, the SDG&E and Tucson Electric Power Company (TEP) merger was dismissed by SDG&E after a study showed substantially less savings than estimated, and because of the possible mitigation requirement (based on FERC's PacifiCorp case) that the merger might be allowed as long as the merged entity agreed that other utilities and large customers could transmit power over its lines. The UP&L Company/PacifiCorp-Pinnacle West (the holding company of Arizona Public Service) was disallowed due to a Pinnacle West directors' decision that the offers were not high enough. The parties then decided to pursue a power purchase and exchange deal instead.

On October 15, 1996 the Enova Corporation (SDG&E) and Pacific Enterprises (SoCal Gas) announced a $2.8 billion stock swap deal. The two companies combined have 5.9 million customers making it the largest investor-owned entity in the U.S. The merger would combine contiguous operations with very little overlap. "The companies claim the merger will result in $1.2 billion in cost saving over 10 years. According to Mr. Baum (Enova's President and CEO), half of the savings from regulated operations will be passed on to customers, expressed as lowered delivered rates, regardless of the source of the commodity...this is an opportunity to increase competition and decrease market power...(Mr. Felsinger, now president of SDG&E said) today we are combining a large gas company with a medium-sized electric company. People ought to expect this would happen. We want to be a survivor. Another option is that an out-of-

state player could step in and take over...Florio (Mike Florio of Toward Utility Rate Normalization, TURN) expects the merged company to create a big aggressive competitor as well as a big, aggressive cross-subsidizer. Customers are now in danger of being milked to feed the new company's hungry new ventures into unregulated businesses. Florio discounted the utilities' claim that at least half of savings will flow to customers, because performance-based rate mechanisms appear successful in diverting savings to shareholders rather than ratepayers."[81]

PG&E has purchased in November 1996, Teco Pipeline Company and a natural gas marketer Energy Source, and in January 1997, Valero Energy Corporation for $722.5 million in stock. "Following these acquisitions, PG&E now has a very broad marketing reach that is coast to coast and up into Canada, said Robert D. Glynn Jr., PG&E's president and chief operating officer."[82]

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81. Arthur O'Donnell, "Enova And Pacific Enterprises To Merge," *California Energy Markets*, No. 384, (October 18, 1996), pp. 9 & 10.

82. Benjamin A. Holden, "PG&E Agrees to Buy Unit From Valero," *The Wall Street Journal*, (February 3, 1997), p. A3.

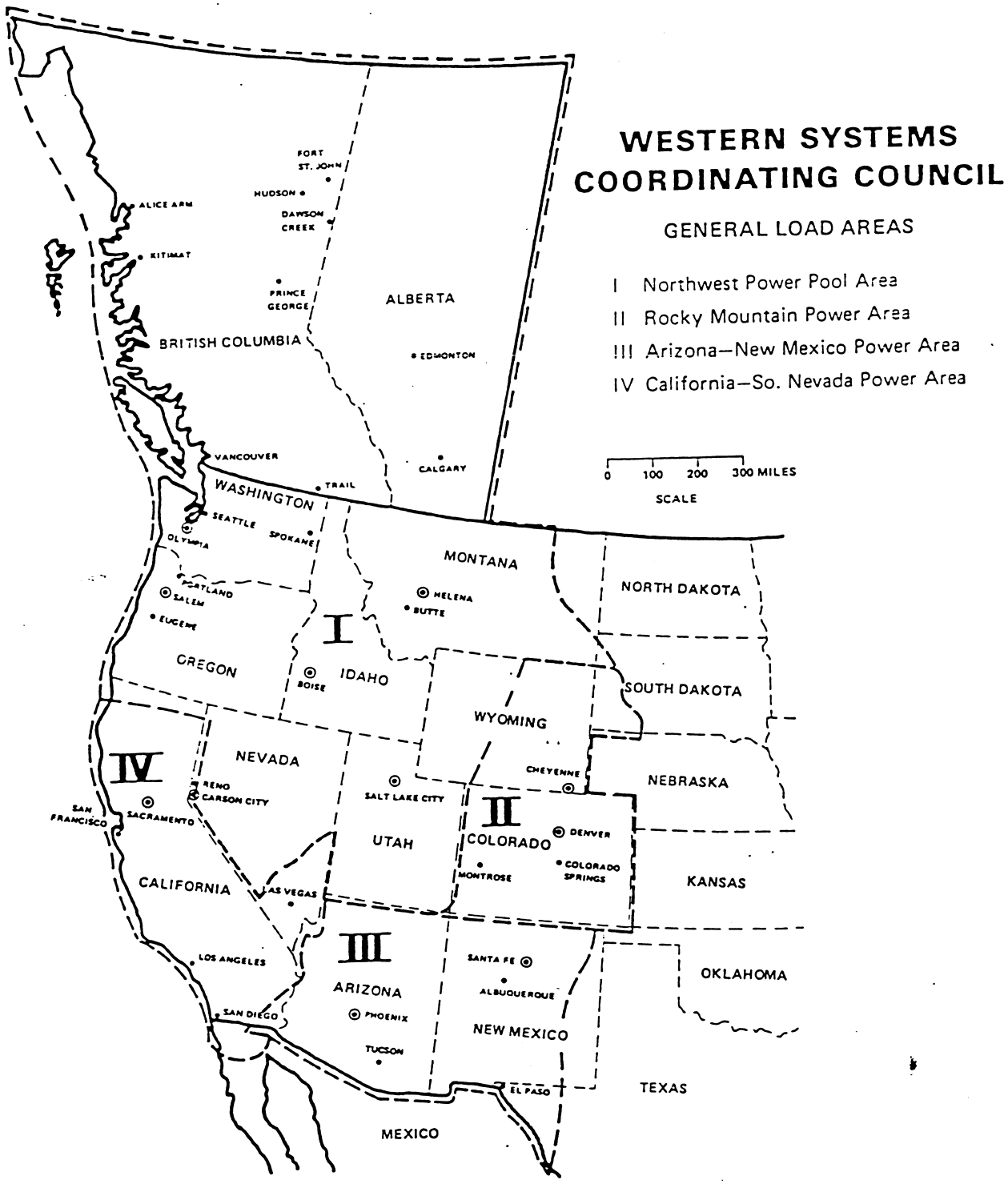
Table 4

WSCC Member Systems

ANHM	-	Anaheim, City of	SDGE	-	San Diego Gas & Electric Company
AEPC	-	Arizona Electric Power Cooperative, Inc.	SNCL	-	Santa Clara, City of
APA	-	Arizona Power Authority	SCL	-	Seattle Department of Lighting (Seattle City Light)
APS	-	Arizona Public Service Company	SPP	-	Sierra Pacific Power Company
BEPC	-	Basin Electric Power Cooperative	SCE	-	Southern California Edison Company
BHPL	-	Black Hills Power and Light Company	TCL	-	Tacoma Department of Public Utilities (Tacoma City Light)
BPA	-	Bonneville Power Administration	TNSK	-	Tenaska Power Partners
BCHA	-	British Columbia Hydro and Power Authority	TAUC	-	TransAlta Utilities Corporation
BURB	-	Burbank Public Service Department	TANC	-	Transmission Agency of Northern California
CALP	-	Calpine Corporation	TSGT	-	Tri-State Generation & Transmission Association, Inc.
CSU	-	Colorado Springs Utilities	TEP	-	Tucson Electric Power Company
CFE	-	Comision Federal de Electricidad	TID	-	Turlock Irrigation District
CDWR	-	Department of Water Resources/California	USBR	-	U.S. Department of Interior
DGT	-	Deseret Generation & Transmission Cooperative			USDO - (Denver Office)
DSTE	-	Destec Energy, Inc.			USGP - (Great Plains)
EPE	-	El Paso Electric company			USLC - (Lower Colorado)
EWEB	-	Eugene Water & Electric Board			USMP - (Mid-Pacific)
FARM	-	Farmington, City of			USPN - (Pacific Northwest)
GLEN	-	Glendale, City of (Public Service Department)			USUC - (Upper Colorado)
IPC	-	Idaho Power Company	USCE	-	U.S. Army Corps of Engineers (North Pacific Division)
IID	-	Imperial Irrigation District	UAMP	-	Utah Associated Municipal Power Systems
KWND	-	Kenetech Corporation	UMPA	-	Utah Municipal Power Agency
LAC	-	Los Alamos County	VERN	-	Vernon, City of
LADWP	-	Los Angeles Department of Water and Power	WWPC	-	Washington Water Power Company
MWD	-	Metropolitan Water District	WAPA	-	Western Area Power Administration (Western)
MID	-	Modesto Irrigation District			WAHQ - (Golden, Colorado)
MPC	-	Montana Power Company			WALC - (Phoenix, Arizona)
NEVP	-	Nevada Power Company			WALM - (Loveland, Colorado)
NCPA	-	Northern California Power Agency			WAMP - (Sacramento, California)
OXGC	-	Oxbow Geothermal Corporation			WAUC - (Salt Lake City, Utah)
PG&E	-	Pacific Gas and Electric Company			WAUM - (Billings, Montana)
PAC	-	PacifiCorp	WKP	-	West Kootenay Power Ltd.
PASA	-	Pasadena, City of	WPE	-	West Plains Energy
PEGT	-	Plains Electric Generation & Transmission Cooperative, Inc.			
PRPA	-	Platte River Power Authority			**AFFILIATE MEMBERS**
PGE	-	Portland General Electric Company	CLP	-	Citizens Lehman Power LP
PSCO	-	Public Service Company of Colorado	CLPD	-	Clark Public Utilities
PNM	-	Public Service Company of New Mexico	CPSI	-	Consolidated Pumped Storage, Inc.
CHPD	-	PUD No. 1 of Chelan County	ENSP	-	Energy Storage Partners
COPD	-	PUD No. 1 of Cowlitz County	HOW	-	Howell Power Systems, Inc.
DOPD	-	PUD No. 1 of Douglas County	IPMI	-	Illinova Power Marketing, Inc.
GCPD	-	PUD No. 2 of Grant County	LHEW	-	Little Horn Energy Wyoming, Inc.
POPD	-	PUD No. 1 of Pend Oreille County	NTUA	-	Navajo Tribal Utility Authority
PSPL	-	Puget Sound Power & Light Company	OKPD	-	PUD No. 1 of Okanogan County
RDNG	-	Redding, City of	PECO	-	PECO Energy Company
RVSD	-	Riverside, City of	USGC	-	U.S. Generating Company
SMUD	-	Sacramento Municipal Utility District			
SRP	-	Salt River Project	CEC	-	California Energy Commission

Source: WSCC 1997

Table 5: Map of the WSCC



Source: WSCC 1997

Table 6a

Announced Reasons for Past Mergers	
UtiliCorp / West Virginia Power	Utilicorp wanted to balance its product mix.
UtiliCorp / Centel	Utilicorp wanted to expand operations.
Kansas P&L / Kansas G&E	Kansas P&L feared disintegration: $80m/yr savings.
Louisville G&E / Hadson	LG&E looked to diversify into Hadson's large nationally distributed accounts.
Iowa Resources / Midwest EN	IR needed more capacity for growing service area: ME had excess capacity.
PacifiCorp / Utah P&L	PacifiCorp had excess capacity and UP&L was strategically located to serve markets PacifiCorp cannot serve: PacifiCorp peak is winter, UP&L peak is summer: $500 m/yr savings.
PacifiCorp / Arizona PS	PacifiCorp wanted new routes to California and to hook up with Utah P&L.
NE Utilities / Public Service of New Hampshire	NEU to access Canada transmission lines from New Hampshire: NEU had excess capacity and New Hampshire needed excess capacity.
Southern California Edison / SDG&E	Southern California Edison would have increased transmission access: $100m/yr savings.
Cleveland EL / Toledo Edison	Cleveland Electric to access transfer of favorable Toledo Edison book value: merger to strengthen management and reduce costs.
East Utilities / Fitchburg G&E East Utilities / UNITIL	Merger would make the three more competitive, give better access to more favorable capital markets.
Southern/Savannah Electric	Southern had excess capacity that Savannah needed.
Kansas City P&L / Kansas G&E	KCP&L needed new plant, decided to buy vs. build.
Pinnacle West / Tucson Electric	Tucson financially hurting: Pinnacle to attempt monopoly -- merger is between two largest suppliers.
Tucson Electric / SDG&E	TEP had excess capacity and San Diego had excess demand.
Iowa Electric / Iowa South	Iowa Electric needed transmission and Iowa South could provide access to it.
Wisconsin P&E / Madison G&E	Companies shared ownership in plants that supplied power to Madison.
Eastern Utilities / Newport Electric	Synergies expected.
Portland GE / Bonneville Pacific	Portland interested in expanding its independent power business.

Source: Jonathan B. Welch and Marjorie B. Platt, "The Future of Electric Utility Mergers in the USA," *Utilities Policy*, (Great Britain, Elsevier Service Ltd., 1995).

Table 6b

Announced Reasons for Proposed Mergers	
Puget Power/Washington Energy	Elasticity between natural gas and electricity will drive gas-electricity combinations i.e., customers will be able to shift easily between gas and electric to achieve short term savings.
BG&E/Pepco	To achieve economies of scale and other financial and operational synergies in order to beat competition on price and service.
Sierra Pacific/Washington Water	Outreach type-merger. Growth in Nevada combining with a low-cost hydro-based Washington Water Power. Creates the third largest western IOU outside California. Merger cancelled.
Wisconsin Energy/Northern States	Creates a highway for electricity from Manitoba to Chicago. Creates the 11th largest IOU.
Public Service Company of Colorado/Southwestern Public Service	Creates a second Pacificorp in terms of north-south access in the western U.S., second largest utility outside of California measured by market capitalization, and potential for a border-to-border utility from Canada to Mexico with another deal or two.
The Southern Company	It is seeking to be a global player in its acquisition of a regional electric distributor in Britain last year for $1.8 billion and agreed in October to pay $2.7 billion for Consolidated Electric Power Asia and owns and operates generating plants in the Philippines, China, Pakistan, and Indonesia.
New England Electrical System	It is shedding its powerplants to become a price marketer of natural gas and electricity i.e., a wires and pipes management and billing company.
Enron/PGC	It brings the convergence of gas and electric markets to center stage. The proposed Texas Utilities/Enserch, Houston Industries/NorAm, and Puget/Washington in which electric utilities seek to add natural gas capabilities, reflect the trend in the other direction.
Lilco and Brooklyn Union Gas	For Brooklyn Union, it means access to 2.7 million Long Island residents, many of whom live in households that do not use gas. Estimated cost savings of $1.1 billion over 10 years for Lilco and Brooklyn Union Gas.

Sources: Exnet: Utility M&A 1996 Proceedings & Papers, pp. 44, 94, 111 and 245. Charles Bagli, "A New Breed of Power Brokers," *The New York Times,* (December 10, 1996), p. C7. *The Economist*, "Lilco's Nuclear Waste," (January 4, 1997), pp. 58 and 59.

IX. Relationship to Strategic Planning and Competitive Dynamics

A. Strategic Planning

M&A ideally produce not only operational efficiencies but also strategic benefits. Pareto and Huston list 5 possible benefits of mergers or acquisitions (see table 7):

1. financial - financial efficiencies
2. skill capture - acquiring new skills or technologies and learning new capabilities
3. synergy - extracts value from operational overlaps
4. re-engineering - value from process redesign
5. strategic - value realized from products and servers that could be offered by the combined firm, but which could not have been offered by either independently.[83]

Strategic mergers often may offer the highest returns, but they may also offer the highest risks. A recent example of a strategic value opportunity according to Pareto and Huston was the merger of Cincinnati Gas and Electric (CG&E) and Public Service of Indiana (PSI) Resources. Completed on October 24, 1994, this merger was expected to give PSI one of the lowest costs of generation in the region combined with greater access to potential power markets through CG&E's extensive transmission network.

Several studies have looked into the phases industries usually experience as they move through the deregulation process from monopoly to competition.[84] In looking to the future, these studies are focusing on a strategic vision. Gardner and Gilson of Venture Associates, view regulated monopolies as moving toward market competition in 5 stages:

1. Stage I - Equilibrium
2. Stage II - Rumbling in the Provinces
3. Stage III - Identity Crisis
4. Stage IV - Refocus
5. Stage V - Dynamic Growth

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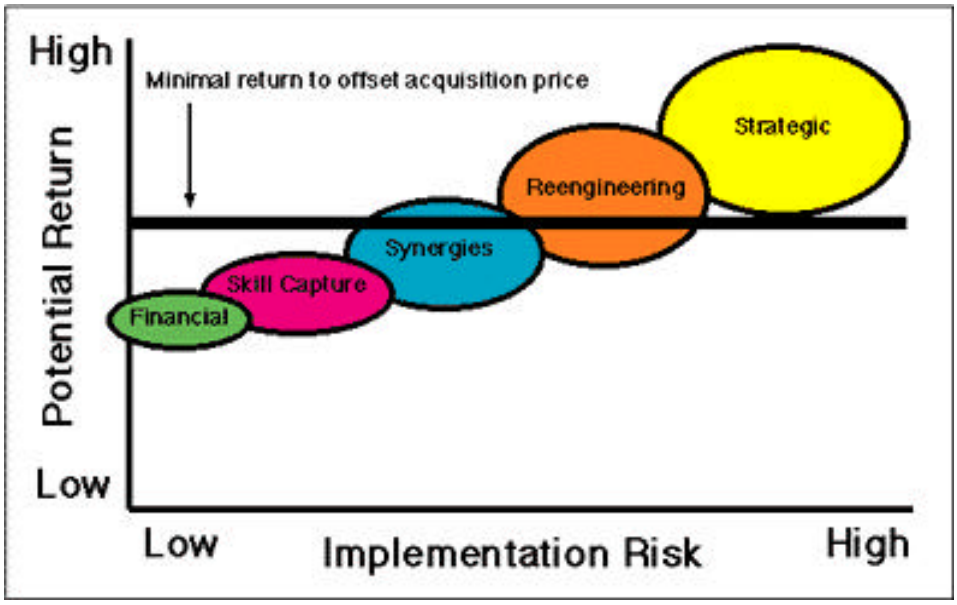
83. Vittorio Pareto and James E. Huston, "Realizing Value From Acquisitions," *The Electricity Journal*, (August/September), pp. 40-42.

84. See Global Business Network, *Structural Futures for the Electric Utility Industry*, EPRI TR-105144 Research Project 2343 Final Report, (June 1995), and Venture Associates, *Predictable Patterns: Navigating the Continuum From Protected Monopoly To Market Competition*, (June 1994).

In moving through this process, firms need a strategic vision of the transition. Global Business Network in its *Structural Futures for the Electric Utility Industry* anticipates new firms and new opportunities in the distribution and end-use sectors associated with technological change in the information and communications industry which could result in substantial cost savings. The IOUs have been investing heavily in telecommunications technology, e.g., fiber optic cable which carries voice, video, and data. "Electric Utilities owned one of the largest communications systems in the nation. These companies' excess capacity can be marketed in a number of ways,"[85] e.g., automatic meter reading, customer communication services such as cellular telephone and wireless e-mail.

Table 7: The Risk/Return Profile of a Merger



Source: Vittorio Pareto and James E. Huston, "Realizing Value From Acquisitions," *The Electricity Journal*, (August/September 1995).

85. Teresa Hansen, "IOUs Invest Heavily in Telecommunications Technology," *Electric Light and Power*, (January 1996), p. 16.

For those parts of the business that become competitive in the long run, greater competition will mean new entrants, new products, service unbundling, technological change, consolidation through mergers, niches, and a reassessment to give the firm a strategic focus, which might mean a voluntary breakup. AT&T has chosen to voluntarily break itself up into 3 companies -- AT&T telecommunications company, a hardware company, and a global information solution company. Some analysts envision this as the model for the nation's vertically integrated electric utilities. Indeed, in September 1995, Niagara Mohawk Power Corporation (NiMo) was the first electric utility to offer to voluntarily divest itself of generating plants by placing them into a separate company. In March 1996, PG&E proposed to voluntarily divest 50% of its fossil generation and perhaps some non-fossil generation as well, subject to certain conditions. SCE, also in March 1996, proposed to voluntarily divest 50% of its fossil fuel generation within its service territory. Then in December 1996, SCE indicated it would divest all of its oil and natural gas fired generating assets at an auction sometime in summer of 1997. In October 1996, New England Electric System agreed to sell or spin off most of its power-generating assets.[86] However, reaggregation through M&A may raise market power concerns.

Douglas Kimmelman of Goldman Sachs Investment Firm forecasts disaggregation as a natural part of the industry's move toward competition. "The merger wave that swept through the industry in 1995 will help some utilities ready themselves for the competitive future. In particular, there is likely to be more examples of the gas and electric combination. But, mergers are a temporary solution. Ultimately, disaggregation is inevitable. Generation is a different business from transmission and distribution, and that is going to force the issue."[87] Generators will be competitive and T&D a regulated franchise.

Kimmelman is working on disaggregation deals now. One possible route to disaggregation could be a merger of two vertically integrated utilities followed by split up, leveraged buy out, etc. of the new firm's generation. This would result in spinning off segments of a merged entity to improve cash flow and concentrate on low-risk, high-reward operations. So in short, he sees mergers as continuing at a hefty pace for another year or two, but also increasing interest in disaggregation.

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86. Ross Kerber, "Massachusetts has Pact with Utility to Shed Plants," *The New York Times*, (October 1, 1996), p. C18.

87. Dennis Wamsted, "Merger Mania Devolving Into Disaggregation Drama?", *The Energy Daily*, (February 1996), p. 6.

Tracy Peter of Citicorp's Global Electric Power contends that power marketing may accelerate restructuring. The argument is that "It is clear that a fourth business - power marketing - is challenging the historic notion that the electric business can be segmented into generation, transmission, and distribution. From an investors standpoint, it is this newest business which promises to hasten competition and industry and corporate restructuring while regulators and legislators deliberate about policy."[88]

Douglas Hawes, as of February 1996, sees mergers as continuing with a more stable regulatory environment, but limited since many of the best deals have been made and smaller companies are holding out for better deals.

In conclusion, Gardner and Gilson saw five trends for 1995 as part of a worldwide reorganization in the electric power industry, as regulated monopolies move through the stages listed above seeking a strategic vision:

1. Industry restructuring (an increase in takeovers, mergers and acquisitions)

2. Increased investment risk

3. Increased productivity

4. Diversification

5. Price reduction[89]

B. Privatization, Divestiture, And Increasing The Size Of The Private Sector

The drive to cut costs and lower rates has manifested itself in two other ways en route to competitive dynamics. Privatization of federal power marketing boards has been proposed by the Alliance for Power Privatization (ALP) and is also under consideration in Congress.

In an interesting case at the state level, a plan (December 1995) endorsed by New York Governor Pataki, would call for Long Island Lighting Company (LILCO) to sell (divest) its natural gas operations and its power plants to private companies. The Long Island Power Authority (a state

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88. *Electric Light & Power*, "Power marketing promises to hasten restructuring," Vol.15, No. 1, (January 1997), p. 5.

89. *Electric Light and Power*, "Consolidations, mergers face utility industry this year," Vol. 73, No.3, (March 1995), pp. 1 & 9.

agency), would take over LILCO's T&D lines and hire a company to operate them. Thus, divestiture (though also accompanied essentially by a state takeover), can put electric power companies into the private sector, which may now be more amenable to the utility restructuring we have been discussing. However, since the transmission and distribution part of the business goes to a state agency, that part is likely for the time being to remain outside of the private sector restructuring process.

X. The Electric Power Industry, Merger Guidelines, and the FERC's Role

Merger guidelines, most recently in 1992, which focused on horizontal mergers, have been put together by the DJ and the FTC. The guidelines outline how they expect to proceed under Section 7 of the Clayton Act (i.e., prevention of potentially anti-competitive mergers), and include product and geographic market definition, as well as market power measurement that is relevant for Sherman Antitrust Act Section 2 (i.e., illegal monopolization [acquisition or possession]) cases. Under the merger guidelines, a HHI examining market shares is used as a screening device. However, "Section 1.516 of the (Merger) Guidelines states that a merger in a less concentrated market may raise significant competitive concerns. A merger may result in market power in electric energy markets even if the merged utility has a market share below 20 percent (a threshold often used by FERC) and the post-merger HHI would be substantially below 1,800."[90] "Some economists have recommended a similar screening of mergers in unregulated industries, first examining barriers to entry, and only later examining concentration if barriers are high."[91]

Drs. Walter Adams and James W. Brock provide a good discussion of antitrust from a traditional (main stream structure, conduct, performance approach) versus a revisionist (contestability/alternative, Chicago-UCLA analysis) perspective. They argue the revisionists are wrong in asserting that economic theory can be mechanistically applied to yield conclusions for use in antitrust. Instead, they view economics as a general, imprecise guide for use in antitrust which requires judgement and assessing the facts.[92]

The Federal Power Act (FPA) under section 203 gives FERC the power to approve public utility mergers and consolidations of certain facilities that are under their jurisdiction. The FERC's

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90. Frankena, "FERC Must Fix Its Merger Policy," p. 36.

91. Robert J. Michaels and Arthur S. DeVany, "Market-Based Rates For Interstate Gas Pipelines: The Relevant Market And The Real Market," *The Energy Journal*, Vol. 16:299, (1995), p. 325.

92. Walter Adams and James W. Brock, "Antitrust, Ideology, and Arabesques of Economic Theory," *Colorado Law Review*, Vol. 66, No. 2, (1995), pp. 257-327.

approval needs to be consistent with the public's interest. The FTC and DJ, despite methodological differences with FERC, usually have deferred the competitive effects of electric power utility mergers to the FERC, although retaining the authority to investigate and challenge them, according to Dr. John W. Wilson. However, according to Dr. John Hilke of the FTC, all electric power mergers with nuclear plants file with the Nuclear Regulatory Commission (NRC). The DJ looks at electric power mergers in a detailed way. The DJ/FTC can challenge the FERC in court. Given the electric power industry's recent merger trend, the FERC has announced that it would wait until next year before reconsidering its policy, rather than blocking the trend.[93]

FERC's emphasis in the past has, for the most part, been on transmission access. According to Mr. Wilson, FERC has not equated concentration with market power.[94] FERC has used its authority to gain concessions, largely open transmission access, from merging companies to offset the harm of generation concentrations.[95] Also, "in keeping with past mergers, the companies have agreed to freeze rates for four years following the consummation of the deal."[96]

In the future, open transmission access and comparable service will be required of all utilities. However, open access or functional unbundling as it is described in FERC's Mega-NOPR may suffer from:

1. Exercising market power in the regulated sphere, e.g., charging competitors inflated transmission prices similar to what it would charge an affiliate, recovering the costs as part of the rate base, and raising its rivals' costs. This could happen when regulators can not monitor discrimination and cost-shifting of the merged firms.

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93. *Electricity Daily*, "Does [FERC Chair Elizabeth] Moler Really Want To Review FERC Merger Policy," (November 6, 1995), p. 2.

94. For a good overall review of regulation and criteria applicable to mergers at the state and federal level including a discussion of some failed mergers, see Welch and Platt, pp. 255-257 and Ray et al., pp. 19-27. Also, for a discussion of merger applications before the FERC (around 1991), see John S. Moot, "Electric Utility Mergers: Uncertainty Looms Over Regulatory Approvals at the FERC," pp. 23-30.

95. John F. Mandt and Karl R. Moor, "Hurdling ever higher a new obstacle course for mergers at the FERC", *Public Utilities Fortnightly*, (January 1, 1996), p. 24.

96. Mary O'Driscoll, "Iowa, Wisconsin Utilities Detail $750 Million in Merger Savings," *The Energy Daily*, (March 6, 1996), p. 3.

2. Subtle changes in quality of service.[97]

Structural remedies for the exercise of market power in transmission suggested by the DJ and the FTC in the FERC Mega-NOPR were operational unbundling (separate operation and access of the transmission grid from generation economic interests).[98] The DJ did prefer divestiture "unless the benefits of economies of scale through unbundling exceed the regulatory costs of effective monitoring of comparable access."[99]

A. Dr. John W. Wilson's Proposal For The FERC

Dr. Wilson wants to halt what he views as the anti-competitive merger wave by recommending the following guidelines:

1. "Where the merger involves or would result in a company (or an affiliated group of companies) with 20 percent or more of either the generation or retail sales of electricity within an Electric Reliability Council (ERC) (there are 12 in the U.S. and 4 in the WSCC) area.

2. Where the merger involves or would result in a company (or an affiliated group of companies) with 20 percent or more of either the generation or retail sales of electricity within any two combined neighboring ERC areas.

3. Where the merger involves a retail electric distributor and a company that distributes a competitive form of retail energy (e.g., natural gas) within the same local market. Thus, the recently proposed merger between Puget Power and Washington Natural Gas should be disallowed."[100]

Hence, there is a 20 percent market share merger barrier.

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97. Staff of the Bureau of Economics of the FTC, *Comments of the Staff of the Bureau of Economics of the FTC*, FERC Docket Nos. RM95-8-000 & RM94-7-001, (August 7, 1995), pp. 3 & 8.

98. Ibid., pp. 12-13.

99. DJ, Comments of the U.S. Department of Justice, *In The Matter of Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission by Public Utilities*, FERC Docket Nos. RM95 - 8 - 000 & RM94 - 7 - 001, (August 7, 1995), p. 4.

100. John W. Wilson, "Merger Guidelines For The Electric Power Industry," *The Electricity Journal*, (January 1996), p. 29.

Concerning horizontal mergers, Adams and Brock mention a market share rule-of-thumb guideline by Professor Stigler of 20 percent or more as violating antitrust law. They note other market share cut off points are compatible with economic theory. Vertical mergers, conglomerate mergers, and joint venture policy are also discussed.[101] Our major focus is horizontal mergers.

The 1992 DJ/FTC Horizontal Merger Guidelines looks at a reduction of competition through unilateral conduct despite no change in a firm's ability to coordinate its actions in the market. The guidelines presume adverse unilateral price effects are most likely to occur when the merged firms have a combined market share of at least 35 percent.[102]

B. Dr. William G. Shepherd's Proposal in "Reviving Regulation -- and Antitrust"

Dr. Shepherd views antitrust policy in the U.S. as weak. He would disallow horizontal mergers that have a combined market share of above 30 percent, or if the dominant firm controls some sort of bottleneck. He suggests several new antitrust tools that could aid in preventing market dominance which include:

1. "Effective rules to identify, prevent, and punish anti-competitive price discrimination.

2. More willingness to use streamlined procedures for divestiture remedies.

3. Tighter criteria against horizontal, vertical and multi-market mergers are needed."[103]

C. Other Alternatives

The FERC could either accept the 1992 DJ/FTC guidelines, or could defer antitrust activity to those two agencies for implementation. However, FERC may view this as a long term option, preferring to exercise its own oversight, due to markets characterized by emerging competition and substantial market power.

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101. Adams and Brock, "Antitrust, Ideology, and Arabesques of Economic Theory," pp. 304-312.

102. Ernest Gelhorn and William E. Kovacic, *Antitrust Law and Economics*, (St. Paul: West Publishing Company, 1994), pp. 397-398.

103. William G. Shepherd, "Reviving Regulation -- and Antitrust," *The Electricity Journal*, (June 1994), p. 22.

In the past, "Rather than use a standard to approve mergers that show public interest benefits, FERC has been content to approve ones that do not cause harm. In its calculations of these benefits, FERC inappropriately includes benefits that could be and should have been achieved absent the merger-benefits such as improved coordinated services transactions, efficiency streamlining of operations and personnel, and rate decreases that were being withheld. In its calculations of merger costs, FERC should include all implementation costs, including any acquisition 'premium' except in rare circumstances.[104]

After approving the Midwest Power Systems, Inc./Iowa-Illinois Gas & Electric Company merger, FERC Commissioners William L. Massey and James J. Hoecker called for a review of FERC merger policy. Future policy should focus on concentration of generation assets and its ability to hinder competition and whether efficiencies and cost reductions could occur without a merger.[105] Indeed, the FERC is reported to have begun an internal debate on the need to change its standards for approving mergers. Current standards for mergers set in a 1966 case involving Commonwealth Edison include: 1) competition issues; 2) affect on operating costs and rate levels; 3) accounting treatment; 4) reasonableness of purchase price; 5) evidence of coercion; and 6) impact on of the effectiveness of state and federal regulations. In recent merger cases, the emphasis has been on points 1 and 2 above. The PacifiCorp merger in 1988 added a new standard, i.e., utilities would have to offer open transmission access to mitigate their new market power.

On January 31, 1996 FERC announced a Notice of Inquiry (NOI), "Merger Policy under the Federal Power Act" to examine its 30-year old criteria for evaluating the merger of public utilities. As a result, we can expect a higher level of analysis from FERC's future investigations of market power concerning mergers.

The APPA and the National Rural Electric Cooperative Association (NRECA) filed a petition to FERC outlining that FERC should take on a new antitrust based electric merger policy, otherwise the industry would see a few dominant companies rather than "workable competition". They recommended several points:

1. Their main concern is whether a utility merger is consistent with antitrust review

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104. David W. Penn, "Public Power's Vital, Procompetitive In the U.S. Electricity Industry's Future," Remarks delivered December 11, 1995, at the Annual Conference of Michigan State's Institute of Public Utilities, Williamsburg, VA, p. A-1.

105. Lori A. Burkhart, "Evolving FERC Merger Policy Delays 'Altus' Deal," *Public Utilities Fortnightly*, (February 1, 1996), p. 37.

2. Screen those mergers that need a full competitive review

3. No merger should reduce transmission capacity unless efficiencies outweigh anticompetitive effects

4. Check market power mitigation strategies of merging utilities, e.g., whether functional unbundling or operational or corporate unbundling is necessary

5. Standard conditions for utility mergers that relate to affiliate transactions[106]

In short, a merger approach similar to but not exactly like the 1992 DJ/FTC Horizontal Merger Guidelines is recommended.

Shepherd's study "Applying Antitrust To Mergers In The Electricity Industry," which was attached to the APPA/NRECA filing to FERC, indicated that mergers are often anticompetitive. He sees a continued market dominance which would block "workable competition" in generation and transmission. Competition based on contestability or entry "turns out to be only a weak restraint on large vertically integrated electricity suppliers entrenched behind legal and economic barriers to entry that enable them to leverage local distribution monopolies into market power over generation and transmission. Potential entrants must overcome substantial barriers to entry."[107]

Mr. John S. Moot has outlined 2 positions which FERC might take in evaluating its merger policy. It could adopt either:

1. Regulatory Oversight Model - Conditions are imposed, i.e., transmission access, which requires involvement in the affairs of the merged company; or,

2. Judicial Model - For example, it could deny a merger or require a divestiture.[108]

More recently, FERC Commissioner Massey outlined several options regarding procedures for future merger policy. They include:

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106. Mary O'Driscoll, "Munis, Co-ops Ask FERC to Revise Utility Merger Rules," *The Energy Daily*, (January 19, 1996), p. 2.

107. Ibid., p. 2.

108. John S. Moot, "Electric Utility Mergers: Uncertainty Looms Over Regulatory Approvals at the FERC," *Energy Law Journal*, Vol. 12, No. 1, (1991), pp. 50-51.

1. Fast track for mergers that meet requirements and policy and another track for those that do not (a two-track merger policy);

2. A "reach back" authority might be used to remedy market power concerns after they develop.[109]

FERC's potential policy for guiding future mergers could be:

1. Retain traditional analysis which seems unlikely given institutional and economic changes;

2. Modify traditional analysis. Options of particular interest include a wholesale market rate freeze, required divestiture of the applicants' facilities (e.g., separation of generation from transmission), etc.

3. Rely solely or primarily on antitrust analysis. This was the approach recommended by the APPA/NRECA filing and Shepherd. Other factors such as rates and costs are important, asserts Commissioner Massey, and not just a focus on generation dominance and competitive impacts.[110]

We think the previous two options (2 and 3 above) under FERC's potential policy or a hybrid approach are the most likely candidates for a FERC revised merger policy. One line of reasoning suggests additional conditions on mergers such as an ISO, price caps, or separation of generation from transmission to mitigate market power and further FERC's deregulation/"workable competition" agenda. Another line of reasoning suggests that "workable competition" will be difficult to achieve in the electric power industry. With large path dependencies (irreversible situations), uncertainty, and the anticompetitive behavior of dominant firms creating barriers to entry, the argument is for a strict antitrust approach which may be liberalized when "workable competition" becomes viable.

FERC Commissioners have hinted at how they view the debate on merger policy at a March 15th Conference sponsored by *Electric Utility Week*. Commissioner Santa would "not require utilities to make structural changes to obtain a merger but recognizes that DJ/FTC's 1992 Horizontal Merger Guidelines are part of a larger package which would improve the analysis of market

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109. William L. Massey, "FERC's Evolving Merger Policy," EXNET Ninth Annual M&A Symposium, (February 1996), pp. 5-6.

110. Ibid., pp. 10-11.

power."[111] Commissioner Santa suggested that "the competitive implications ought to be pre-eminent criteria for merger approval."[112] He further indicated 3 steps:

1. Drop three criteria under existing policy: proposed accounting treatment, reasonableness of purchase price, whether the involved merger involves coercion. The remaining existing conditions would be refocussed: effect on the existing competitive situation, effect on the applicants' costs and rates, and whether the merger will impair effective regulation - to reflect contemporary market conditions.

2. The DJ/FTC Horizontal Merger Guidelines should be adopted. A benefits test (affect on costs and rates) should be of diminished importance in a market characterized by open access and wholesale competition. A "hold harmless" condition is all that is needed since wholesale customers will be able to shop the market once their current contracts expire.

3. Merger specific guidance must included in a merger application. FERC would streamline its procedures to clarify what an applicant must include on the three criteria to show that the merger is consistent with the public interest.

In short, if the merger does not harm competition and merged companies' ratepayers, then the market should decide if the merger passes.[113]

"Commissioner Massey wanting to go beyond a simple antitrust standard saw key issues revolving around: the analysis of proposed costs and benefits, the effects of a merger on competition, the impact of transmission constraints on FERC's consideration, reliance on solely antitrust analysis, a two-track merger policy, and the possibility of employing the Commission's 'reach-back' authority."[114] The *Electric Power Alert* article further reported Commissioner Massey seemed to have a more favorable disposition to a two-track approach while Commissioner Santa saw pitfalls such as the possibility of making wrong decisions. Commissioner Massey was not enthusiastic toward using FERC 'reach-back' authority since it may be hard to undo a poor decision on a merger.

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111. *Electric Power Alert*, "FERC Commissioners Frame Debate On Merger Policy Makeover," (March 27, 1996), p. 15.

112. *Public Power Weekly*, "Santa suggests revision of FERC's policy on mergers" (March 26, 1996), p. 1.

113. Ibid., pp. 1 & 2.

114. *Electric Power Alert*, "FERC Commissioners Framed Debate On Merger Policy Makeover," p. 15.

In October 1996, FERC Chairperson Moler said that they will not let mergers stop the benefits of competition. FERC "will not allow 'merger mania' to undermine competition and that FERC will closely scrutinize transmission market constraints to prevent any price-gouging of consumers...while transmission are not frequently constrained-perhaps 25 percent of the year - those relatively short periods of time had disproportionate economic impact."[115]

115. George Lobsenz, "Moler: FERC Will Not Let Mergers Undercut Competition," *The Energy Daily*, (October 28, 1996), p. 4.

XI. Conclusion and Recommendations: M&A, and Market Power and Phasing in "Workable Competition" in the Electric Power Industry

The U.S. electric power industry in the early 1990's had been termed partially deregulated. Sometimes the economic literature refers to the effort of injecting competition into the process as "regulatory reform", but we have been calling it deregulation. With reference to the electric utility industry, "it is likely that state-sanctioned monopolies will dominate for the foreseeable future."[116] Although it is likely that the T&D of electric power will remain natural monopolies for some time due to economies of scale and scope, both the generation and the retailing of power may become competitive.[117]

There have been 3 schools of thought concerning the deregulation debate:

1. "Pro-Market school - The emphasis has been on creating efficient wholesale markets with free entry for Independent Power Producers (IPPs) that will discipline utility construction practices and allow such utilities to shift some risks onto IPPs and/or onto utilities in other regulatory jurisdictions.

2. Pro-Merger school - The principal thesis is that assured transmission access, on which efficient wholesale markets depend, must await a solution to the shortage of transmission lines. The principal assumption seems to be that the current division of labor among regulators is so firmly embedded in the U.S. governing structure and so unlikely in the foreseeable future to build needed transmission lines that the only plausible solution to this part of the industry problem is for regulators to encourage horizontal mergers of existing Transmission Owning Utilities (TOUs).

3. Go-Slow school - It asserts that the system is working reasonably well. Needed transmission lines are being built in almost all parts of the nation. In short, according to this school, the old industry structure and the old regulatory structure can be reformed and

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116. Rainer Lock, "Anti-trust and regulatory issues in a competitive electric industry," *Utility Policy,* Vol. 1, No. 3, (1991), p. 231.

117. See Vernon L. Smith "Can Electric Power -- A 'Natural Monopoly' -- Be Deregulated?" *Making National Energy Policy*, ed. by Hans H. Landsberg, 1993 for a discussion of how local retail power merchants can compete despite a "natural monopoly." In short, consumers are served by individual retailers of power called retail power merchants. A local distribution company owned by 2 or more local retail power merchants is operated as a cost center but has no right to market power. Hence, the retail power merchant function could be competitive while the local distribution company remains a "natural monopoly."

made tenable for some time yet. During that time, mergers among TOUs should be encouraged by regulators and all should observe the British experiment."[118]

A more recent description of the current state of deregulation proposals appeared in an Administrative Law Judge (ALJ) recommended decision to the NYPSC. It presented:

a. A Retail Model which involves Poolco, contracts for differences, and bilateral contracts, and includes direct access. This is consistent with the Pro-Market school.

b. A Wholesale Regulatory Model which is similar to the Retail Model except that it omits direct access or postpones it. This also seems consistent with the Pro-Market school.

c. An Evolving Regulatory Model which is similar to the Go-Slow school, but includes FERC's open-access policies. It also includes greater use of performance-based regulation.

Supporters of the Pro-Merger school might, as we have seen include Tirello, Welch and Platt.

Proposed M&A activity over the last two years has impacted the major regions in the continental U.S. and including California, Oregon, Washington State and Nevada. The Wisconsin Public Service Commission (WPSC) on December 19, 1995 approved a restructuring proposal that would implement retail customer choice by 2000. The CPUC issued a decision on December 20, 1995 that would allow direct access, retail wheeling, beginning in 1998 with all consumers participating by 2002. Moreover, an ALJ proposed decision from New York (December 21, 1995) recommended a transition leading to a flexible retail Poolco. Additionally, the New Hampshire Legislature mandated a retail wheeling pilot project in July of 1995. By 1996, "Retail wheeling ... is being evaluated by legislative and regulatory authorities in more than 40 states. It is the subject of proposed federal legislation in Congress. It has already been mandated in California (AB 1890), Illinois, New Hampshire, and Rhode Island."[119]

Retail wheeling/direct access, which is just being developed, helps create larger regional markets via consumer choice. At the same time, regional consolidation is occurring through M&A. One theory is that direct access is driving M&A. As regional markets expand, due to consumer choice

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118. Charles G. Stalon, "Restructuring the electric industry," *Resources and Energy,* (1992), pp. 71-72.

119. Penn, "The Value of a Public Power Distribution System: Increasing Not Decreasing," p. 2.

and other factors, the impact of M&A may be less, due to the larger number of firms and increased size of the market despite consolidations. Furthermore, M&A may support expanded regional markets. More empirical work on these points is needed in order to understand when market power considerations become a concern in this process.

The Pro-Market school has been the dominant force in the 1980's and into the 1990's. Will the acceleration of electric power mergers create a market structure conducive to an emerging workable competitive environment? Some analysts view deregulation as fostering the growth of independent power units while utility monopolies are broken up. An example is the SCE subsidiary, Mission Energy, whose purchase of First Hydro of the U.K. (valued at $1 billion) appears in table 3.

Some parts of the industry will remain monopolistic, others oligopolistic, and still others will be competitive. There may be a succession of phases of development as some products and services move toward "workable competition".

Mergers are part of the movement toward regionalization in the U.S., in an increasingly global industry. Indeed, "In the last quarter-century, large technological improvements have occurred in transmission and control systems. The latter, i.e., control systems, depend largely on telemetering and computational abilities of computers. These improvements (1) lengthened the economically feasible distances for transmitting power and (2) increased the abilities of controllers to coordinate generating plants spread over larger geographical areas."[120] Time-of-day metering could also have a huge impact on regionalization.

The FERC 1995 Mega-NOPR is designed to establish a set of comprehensive, open access, non-discriminatory transmission rules that will help develop "workable competition" in regional markets. "Since then, 31 public utilities have filed transmission tariffs that provide varying degrees of open access, certain power pools have discussed adopting ISOs or other structural changes, and the CPUC has issued an order directing restructuring of the electric industry in California to include a spot market power exchange, an ISO, and retail access among other things"[121] On April 24, 1996 FERC ordered electric utilities to open up their transmission systems to outside energy providers. The objective would be to meet EPAct's requirement for

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120. Ibid., p. 64.

121. FERC, "Inquiry Concerning Commission's Merger Policy Under the Federal Power Act," *Federal Register*, Vol. 61, No. 26, (February 7, 1996), p. 4596.

comparable transmission access. The FERC's October 26, 1994 Pricing Decision moved the industry further along toward (short run or long run) marginal cost pricing.[122]

Carlton and Perloff, two industrial organization (I-O) economists, viewed "an oligopolistic market structure as one which can show prices greater than marginal costs with short-run profits a plus or minus and long-run profits a plus or 0."[123] Greer saw "oligopoly as few firms usually with entry impeded and profits somewhat excessive, with perhaps poor production efficiency."[124] With more firms, there is likely to be more competition. Shepherd recommends "at least five companies, [with] no one firm holding more than 40 percent of the market, to have effective competition."[125] This numeric criterion is based on an econometric cross-sectional study. Some flexibility in the guidelines for "workable competition" may be in order. For example, Shepherd's 4 guidelines for effective deregulation in the electric power industry may provide an acceptable starting point, with some modifications. These include:

1. "Market shares below 60 percent for the dominant firm

2. Bottleneck controls

3. Deregulation after competition

4. Strict antitrust."[126] FERC needs to adopt an antitrust approach to mergers that is effective for the electric power industry. Reasonably free entry must be ensured.

In market share analysis, some recognition of a competitive fringe or competition from an unregulated firm that possesses market power is appropriate as well. It is important "...to note that the number of firms and competition are only loosely related. There can be intense competition with as few as two or three firms if rapid technological change, huge (lumpy) sales, and related market characteristics are present, as in the commercial aircraft industry. In contrast, there can be a lack of competition even where numbers are relatively high if, for example, there is

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122 FERC, "Inquiry Concerning the Commission's Pricing Policy For Transmission Services Provided by Public Utilities under the Federal Power Act," (October 26, 1994), p. 21.

123. Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization*, (Harper Collins Publishers, 1990), p. 360.

124. Greer, *Industrial Organization And Public Policy,* p. 13.

125. Shepherd, "Reviving Regulation -- and Antitrust," p. 19.

126. California Energy Commission, *Generation Market Power*, (August 3, 1995), p. 29.

a strong trade association, many joint ventures, and lock-in effects,[127] i.e., when a holder of an asset is discouraged from selling it because of a fall in the market and a resulting loss. More work in this area is needed to classify the electric power industry, but the number of firms and competition may vary by function, e.g., generation, transmission, distribution, and local power marketers.

Larger regional markets and oligopolistic market structures are likely environments in which to evaluate mergers now. The FERC has yet to announce any revised merger policy. A revised set of merger guidelines could prove useful to facilitate discipline if market power is viewed as a long term threat. But we should keep open the possibility that competition among the few, oligopoly in a global environment, and between regions in the U.S., with appropriate market power mitigation measures (e.g., ISOs, retail access, transmission expansion, divestiture etc.) might constitute an intermediate step toward deeper forms of "workable competition". Many anticipate in the future, FERC will require separate generation, transmission and distribution.

Several other recommendations for FERC to consider in a M&A policy that can improve industry performance include:

1. The appropriate regional market depends on the case at hand. It need not be an ERC. Product markets[128] and transmission congestion can help determine geographic market boundaries, which are in turn influenced by market structure. In the past, most electricity merger analysis looked at a regional market. In the UP&L and the SCE/SDG&E merger applications, FERC judges found that the relevant geographic market for bulk power was the area covered by the WSCC.[129] Geographic markets may be defined on a case by case or ad hoc approach. But, there is an inconsistency with this approach. Another approach would be to look at the U.S. or even a larger geographic market area and determine the sub-regions based on overall production, consumption, product differentiation, etc. A comprehensive approach would have to sort out border regions perhaps with judgement calls.[130]

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127. Douglas Greer, Personal letter dated February 7, 1996, p. 2.

128. See Borenstein, Bushnell, Kahn, and Stoft, *Market Power in California Electricity Markets*, Power Working Paper (PWP) #36, December 1995, page 4, for a description of product markets which includes off-peak and on-peak spot electricity.

129. John S. Moot, "Electric Utility Mergers: Uncertainty Looms Over Regulatory Approvals at the FERC", pp. 1-51.

130. Greer, Personal letter, p. 2.

2. M&A might be subject to a long run, merger specific, benefit-cost test to the extent possible, given such constraints as time, availability and cost of data, etc. Economies of scale and scope that extend to even a global context need to be assessed. Elimination of arbitrary company trading restrictions based on past cost-of-service regulation may result in economies. Other factors to consider are environmental impacts, price impacts, competitive impacts, innovation, fairness, freedom of choice, and barriers to entry. The result could be a long run, merger specific, net benefit that is in the public interest. It should be noted that Shepherd argues for avoiding a benefit-cost approach due to the difficulty in guessing future outcomes and self-interested assertions. He would focus on looking at competitive effects of a merger or acquisition.[131]

3. An understanding that "Two factors, in general, determine the level of market power that a firm can exercise: the elasticity of demand in a market and the degree of competition among sellers [market share]. In perfect competition, the elasticity of demand becomes irrelevant due to the intensity of competition. In monopoly, only the demand elasticity matters, since there are no competitors. In an oligopoly setting, the actions of competitors and demand elasticity both influence the market outcome."[132] (Ease of entry, rapid technological change, and rapid industry growth are important factors that may provide potential competition, and are part of the DJ/FTC merger guidelines.)

4. There may be trade-offs between market structures rather than clear-cut choices. For example, "A large number of actively competing price-setting generators will give greater volatility to average pool prices from year to year, around the same medium-run entry-determined price. Oligopoly provides price stability, which is inefficient in terms of short-run allocative decisions, but which may reduce imprudent investment choices. Volatility provides incentives for innovation in supply security, in metering, in demand-side management, and in decentralized small-scale generation."[133]

5. In support of point 2 above, analyses of mergers should scrutinize efficiency claims from both a static (i.e., operational) and a dynamic (i.e., strategic) perspective. Albert Tune,

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131. William G. Shepherd, "Applying Antitrust To Mergers In the Electricity Industry," (January 17, 1996), p. 23.

132. Severin Borenstein, James Bushnell, Edward Kahn, and Steven Stoft, *Market Power in California Electricity Markets*, PWP #36, (December 1995), pp. 10-11.

133. David M. Newbery, "Power Markets and Market Power," A paper prepared for the EEE conference *Competitive Restructuring of the Electricity Supply Industries in England & Wales, Norway and Argentina -- What should have been done differently?*, (London, U.K. April 6-7, 1995), p. 14.

Vice President and Manager, Utility Group, Society Generale feels merger savings are hard to estimate. The relationship between projected and known merger savings may not be known for years.[134] Mark Luftig of Kemper Securities of Chicago, has observed, "that estimates are improving."[135] [136] Several guidelines have been suggested that should be noted:

a. "Cost savings need to be discounted.

b. Stand-alone analysis needs to be specified, including that merging firms take all prudent and reasonable steps to operate efficiently, including entering into cost-reducing contractual relationships with each other or third parties.

c. Claimed benefits deriving from capacity deferral have been flawed since benefits and costs occur beyond a limited period. Often ignored is the fact that additions to capacity would still have to be made after the end of the measurement period.

d. The claims of savings in customer service and overhead costs tend to be asserted rather than demonstrated. For example, if the reason for the pre-merger cost gap between the parties is that there are differences in the composition of customers or in labor costs, the merger will not necessarily result in lower overall costs. Furthermore, if there are diseconomies of large size, as the statistical cost literature projects, expected overhead and administrative cost savings may be offset by higher bureaucratic or other costs."[137]

e. An understanding of the ways in which "allocative efficiency (the impact of competition i.e., what should be produced and in what amounts) and technical

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134. Hoske, "Mergers aim to augment utility competitiveness, benefits abound, quantification remains difficult," p. 11.

135. Ibid., p. 11.

136. Other experts who have made cost saving estimates from mergers and acquisitions in the electric power industry include: I.M. Anonymous, II, "Primary Mergers: An Insider's Guide," pp. 10-12 and Michael J. Hamilton, "Measuring the Merger" Fact, Fiction, and Prediction," *Public Utility Fortnightly*, (October 1, 1996), pp. 26-31.

137. Frankena and Owen, *Electric Utility Mergers: Principles of Antitrust Analysis*, pp. 162-163.

efficiency (or technical economies) may exhibit trade-offs or some aspects may not be relevant depending on public policy."[138]

f. Rules for cost savings based on efficiency need to be developed, both procedurally and substantively, to make the assessment process more manageable. One may want to deny pecuniary economies (because they usually arise from monopsony power, which implies reduced competition). Also, one may want to specify that the burden of proving efficiencies rests with the respondent parties. Hence, there is a skeptical attitude (by Dr. Greer) toward efficiency claims and an assignment of burden where the information rests.[139] The 1992 DJ/FTC Horizontal Merger Guidelines recognizes cost savings from manufacturing, service, or distribution operations of the merging firms.[140] The FTC's staff recently issued a report which proposed a shift in merger reviews which would "give more weight to evidence of potential cost savings and how merger-related efficiencies could increase competition in an industry (and) pay more attention to whether mergers and other combinations jeopardized competition to develop new products."[141]

In short, ex ante merger economies need to be fully examined. Finally, there should be a recognition that a dynamic market sorts out relative costs and benefits between firms. Although we feel that this is a healthy process, it should be made consistent with the public interest and not merely result in an exercise of market power.

6. Large path dependencies seem to be omitted in a discussion of M&A, deregulation, and anti-competitive effects. Large path dependencies with uncertainty, if that adequately describes the electric power industry, would seem to favor a stringent merger policy (that could later be liberalized).[142]

7. Shepherd notes that improved research is needed on the economies of scale and scope of vertical integration versus other organizational options. He points out the possible outcomes which include:

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138. Greer, *Industrial Organization And Public Policy*, pp. 227-229.

139. Greer, Personal letter, p. 2.

140. DJ/FTC, *Department of Justice and Federal Trade Commission Horizontal Merger Guidelines*, (April 12, 1992), pp. 55-56.

141. Bryan Gruley, "FTC's Proposed Shift in Merger Reviews Helps Drug, Defense, High-Tech Firms," *The Wall Street Journal*, (June 4, 1996), p. A3.

142. Ibid., p. 2.

a. Vertical economies are large as Kwoka recently reported.[143]

b. Economies may exist only between any 2 layers, not 3.

c. Others argue that a separately controlled power grid is the most efficient form.[144]

The National Regulatory Research Institute (NRRI) concluded "the results indicate that for a majority of firms in the industry, average costs would not be reduced through the expansion of generation, numbers of customers, or the delivery system. Evidently, the combination of benefits from large-scale technologies, managerial experience, coordination, or load diversity have been exhausted by the larger firms in the industry. However, the evidence strongly supports the notion that many firms would benefit from reducing their generation-to-sales ratio and by increasing sales to their existing customer base.[145]

Shepherd concludes that M&A decisions should allow a broad range of choices an not necessarily vertical integration or complete independence of generation, transmission, and distribution.[146] Indeed, "in late November (1995), perhaps mindful of the warnings from Commissioner Massey, the FERC showed indications of moving back to a standard that would require merger proponents to prove scale economies from system integration."[147] This is in relation to a preliminary hearing on the Altus merger (WWPC and the SPPC) where a draft opinion saw no fuel savings related to integrated operations and central dispatch.

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143. John Kwoka, "Vertical Economies in Electric Utilities: Evidence from the U.S. Industry," Paper presented to the Institute of Public Utilities Conference, (December 12, 1995). Also see John E. Kwoka, Jr., "Vertical Integration and Its Alternatives for Achieving Cost Efficiency in Electric Power," D-9601, George Washington University, Department of Economics, (March 1996). In the latter publication, Kwoka notes that holding companies and certain power pools appear to represent substitutes for formal integration between power generation and distribution.

144. Shepherd, "Applying Antitrust To Mergers In The Electricity Industry," p. 23.

145. Herbert G. Thompson, David Allen Hovde, Louis Irwin, Mufakharul Islam, and Kenneth Rose, "Economies of Scale and Vertical Integration in the Investor-Owned Utility Industry," National Regulatory Research Institute, (January 1996), p. iii.

146. Shepherd, "Applying Antitrust to Mergers in the Electricity Industry," p. 23.

147. Wallace Edward Brand, "Is Bigger Better? Market Power in Bulk-Power Supply: From FDR to NoPR," *Public Utilities Fortnightly*, (February 15, 1996), p. 27.

8. Estimates of future M&A and their potential impacts might be included in planning studies as future scenarios that might aid public policy analysis.

9. Continued monitoring of the interrelationship of technological change, mergers and acquisitions, and market power needs to occur. Who controls technology and benefits from these changes, the pace of technological changes, as well as the technological changes themselves could result in different impacts. We find appealing for public policy "a dynamic regulatory model, where the variables of market structure and rates of innovation, and their interaction are part of the subject matter of regulation."[148]

   The importance of technological change and its ability to create new markets due to the deregulatory process is noted in "the first law of TechnoEconomics: $D = MT^2$. Deregulation equals market size times technology squared."[149] The implication is that while technology may give rise to new natural monopolies, it is more likely, based upon past experience with deregulation, to create new markets and competition. Finally, it is interesting to further note the power of technological change on industry structure. "Technology does not necessarily respect the ownership patterns and boundaries that happen to prevail in industry. This is particularly true among public utilities.[150,151]

In closing, it is too early to tell whether M&A in the electric power industry will lead to efficient restructuring to obtain economies of scale and scope, or will ultimately pose a threat to workable competition through the exercise of market power. Also, M&A may help the electric power industry cope with the risks of competition or it may create very large companies that can not respond to the increasing pace of change. More and better analysis is needed to sort out those mergers which are efficient from those which are not. FERC needs to note and evaluate the following point as they revise their merger policy: "It is not enough to deregulate an industry and then permit the deregulated firms to go on a merger and acquisition spree. Deregulation must be supplemented by strict antitrust enforcement to preserve competition and to prevent

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148. Walter Adams and Joel B. Dirlam, "Market Structure, Regulation, and Dynamic Change," *Performance Under Regulation*, edited by Harry Trebing, (East Lansing, Michigan, Institute of Public Utilities, Michigan State University 1968), p. 138.

149. Bruce W. Radford, "TechnoEconomics: The Life and Death of Natural Monopolies," *Public Utilities Fortnightly*, Vol. 131, No. 17, (September 1993), p. 45.

150. Alfred E. Kahn, *Economics of Regulation: Principles and Institutions*, Vol. II, (Santa Barbara, John Wiley & Sons, Inc., 1971), pp. 10-11.

151. Radford, "TechnoEconomics: The Life and Death of Unnatural Monopolies," p. 45.

deregulation from becoming a handmaiden of monopolization, oligopolization, and laissez-faire cartelization."[152]

152. Walter Adams and James W. Brock, *The Bigness Complex*, (New York: Pantheon Books, 1986), p. 374.

Appendix I

Brief Overview Of The Filings To FERC On Its NOI, Inquiry Concerning Commission's Merger Policy Under The Federal Power Act, Docket No. RM96-6-000

Sixty one sets of comments were filed in response to the FERC Merger NOI Proceedings including our Working Paper which was filed by a third party, The Institute For The Study of The International Aspects of Competition, Department of Economics, The University of Rhode Island. A brief highlight of some of the major points are summarized below. We hope to integrate this information around the major themes of the paper. There is a wealth of information presented in the filings. FERC in its Order No. 592 issued on December 18, 1996 concerning the Merger NOI in Appendix D includes a 38 page Summary Of Comments On Merger Policies.

Filings include the Federal Government, i.e., the DJ, FTC, the National Association of Regulatory Commissioners (NARUC), NRRI, State PUCs, EEI, IOUs, Munis and Co-ops, and other interested parties.

Some of the major points relevant to the thrust of our Working Paper include:

1. The DJ/FTC
   a. Support a technical (electrical system) modeling conference whose objective would be to aid in the determination of geographic markets in the U.S.
   b. Use of the DJ/FTC horizontal merger guidelines
   c. FERC should implement efficient transmission pricing otherwise merger and open access would be responding to the wrong price signals
2. NARUC
   a. Change the current merger guidelines approval standards
   b. Both Federal and State regulators should look at generation market power, impacts on transmission, electric rates, and disapproving situations inconsistent with antitrust laws
3. NRRI - Their position was summarized earlier on pages 27 and 60 in our Working Paper.
4. EEI/Dr. Joskow This filing contains many points that many IOUs would support. These include:
   a. Focus on horizontal market power since Order 888 has largely dealt with vertical market power. Focus on short-term power markets, not long-term power markets which the Commission has deemed competitive.
   b. Look at the proposed impact of the merger on competitive impacts using the DJ/FTC horizontal guidelines forward looking analysis, e.g., whether or not the proposed merger is likely to create or enhance market power and lead to higher prices.
   c. They see a rapidly evolving bulk power market becoming competitive e.g., the EPAct requires transmission access for wholesale competitors, Order 888 which institutes comparable access for buyers and sellers in the wholesale market, many market players,

i.e., sellers including utilities, EWG's, non-utility power marketeers' as well as by-pass (self-generation), and DSM. Entry conditions have changed with a combined-cycle gas-turbine capable of being planned and sited in 3 years (the long term).

d. Dr. Joskow added to the EEI filing that "entry in long-term markets can also restrain market power in short-term markets by placing a cap on prices reflecting the costs of new entrants."[153] Excess capacity in the bulk power market means that "wholesale market prices are below long run marginal costs of generation. Potential market power problems in the supply of energy to serve load are quite limited."[154] He reiterates his point that the real cause for market power concern is in generation (as discussed earlier). Consolidation of transmission areas is likely to be pro-competitive and efficient.[155] Finally, Dr. Joskow also stresses good open access and pricing rules to facilitate competition among dispersed generators.

e. New market institutions (e.g., open power exchanges with transparent prices and Order 889 which specifies information requirements) will lower information costs and reduce transaction costs.

In short, in points c through e we see a picture of an emerging competitive bulk power market with ease of entry.

5. APPA/NRECA

Their approach was discussed earlier. Basically, it is one in which Dr. Shepherd supports using antitrust based policy to deal with dominant companies with entrenched legal and economic barriers to entry. Moreover, it seeks to avoid premature regulation.

6. Other Items Of Note

a. Measuring merger specific efficiency claims

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153. Edison Electrical Institute, "Comments of the Edison Electrical Institute," Inquiry Concerning the Commission's Merger Policy Under the FPA, Docket No. RM96-6-000, (May 7, 1996), p. 12.

154. Ibid., Appendix A, p. 31.

155. Ibid., Appendix A, p. 33.

- "When examining the 'financial savings' claimed from a proposed merger, FERC should determine whether the savings are 'real' savings or whether they are generated by reductions in service.[156]

"claimed benefits should be measured in net present value terms to allow for accurate evaluations."[157]

b. Processing Mergers

- "Mergers in or near the same relevant market must be evaluated simultaneously. (See A. Kahn, *The Economics of Regulation* Vol. II at 88 (1988 ed.) quoting criticism of Interstate Commerce Commission for its case-by-case approach to railroad mergers in the 1960's: where several mergers are pending in one area, the cases inexorably shade into each other requiring a rearrangement of competition on a regional basis."[158]

c. Ways Of Exercising Market Power

How the past merger market behaves, depends on its market structures. Market structure exhibiting market power may take 3 basic forms:

- "a dominant firm might attempt to exercise market power unilaterally
- unilateral behavior of two or more firms that have large market shares
- collusion-Firms could agree, either tacitly or explicitly, to act in unison with respect to attempts to raise prices by reducing output. In effect, a group of firms will act as if they were one dominant firm."[159]

d. Next Generation of Mergers

Most utility mergers have been a combination of neighbors. Future mergers could include:

- mergers of jurisdictional electric utilities with gas utilities.

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156. Consolidated Low-Income Representatives, "Comments of Consolidated Low-Income representatives," Inquiry Concerning Commission's Merger Policy Under The FPA, Docket No. RM96-6-000, (May 7, 1996), p. 37.

157. National Rural Electric Cooperative Association, "Comments Of The National Rural Electric Cooperative Association," Merger Policy Under the FPA, Docket No. RM96-6-000, (May 7, 1996), p. 11.

158. Joint Consumer Advocates, "Comments Of Joint Consumer Advocates, "Inquiry Concerning Commission's Merger Policy Under The FPA, Docket No. RM96-6-000, (May 7, 1996), pp. 18-19.

159. Madison Gas and Electric Company, "Comments Of Madison Gas And Electric Company," Inquiry Concerning Commission's Merger Policy Under the FPA, Docket No. 96-6-000, (May 7, 1996), p. 4.

- combinations of non-interconnected electric utilities (e.g., PacifiCorp with its Big Rivers transaction)
- mergers of companies which are not jurisdictional electric utilities but own power marketers with companies which are jurisdictional electric utilities. Hawes and Behrends believe that most of these types of transactions do not raise the competition issues prevalent in classic neighborhood mergers.[160]

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160. Douglas W. Hawes and Sam Behrends IV, "FERC Merger Policy And Procedures:Improved Procedures For The Next Generation Of Mergers," Inquiry Concerning the Commission's Merger Policy Under the FPA, Docket No. RM96-6-000, (May 7, 1996), pp. 2, 9, and 14.

Appendix II

Summary Of FERC, Order No. 592, Policy From Merger NOI Docket No. RM96-6-000

FERC released its new utility merger policy on December 18, 1996. It was designed to simplify and expedite the process and be "consistent with the public interest." A merger would be analyzed for its impact on competition, rates, and state and federal regulation and be consistent with its competitive policy as set forth in the 1992 EPAct and Open Access Rule, Order No. 888.

The impact on competition adopts the DJ/FTC Commission Merger Guidelines 5 step process:

1. assess concentration
2. looks at adverse competitive effects
3. will entry mitigate market power concerns
4. assess efficiency gains that can not be achieved by other means
5. looking to see if either party to the transaction would fail if the merger were not approved

A screening device using HHI's would identify mergers that would not harm competition. The DJ/FTC guidelines are applied by the analytic screen. To develop the screen in order analyze market power, it is required to identify:

1. the relevant products
2. relevant customers affected by the merger and at a minimum all those directly connected to the merged parties
3. customer's potential suppliers from a physical or economic perspective (A hub-and-spoke approach which was past policy for the FERC "identified affected customers as those that are directly interconnected with merging parties. It then identifies potential suppliers as (1.) those suppliers that are directly interconnected with the customer (the first-tier' suppliers); and (2.) those suppliers that are directly interconnected with the merging parties and that the customer thus can reach through the merging parties' open access transmission tariff (the 'second-tier suppliers).

A drawback of this method of defining geographic markets is that it does not account for the range of parameters that affect the scope of trade:relative generation prices, transmission prices, and transmission constraints. Taking these factors into account, markets could be broader or narrower than the first-or second-tier entities identified under the hub-and-spoke analysis."[161]
4. market concentration analysis using a HHI threshold. The FERC will entertain other methods and factors than a screen.

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161. FERC, "Order No. 592, Policy Statement", Merger Policy Under the FPA, Docket No. RM96-6-000, (December 18, 1996), pp. 21-22.

If mergers adversely affects rates, the Commission may impose remedies on a case-by-case basis which include turning control of their transmission assets to an ISO, an up-front enforceable commitment to upgrade or expand transmission facilities, no trade over constrained paths, plant divestiture, real-time pricing which can help make demand more elastic etc.

A second major area of analysis of mergers is its impact on rates. The new Commission policy does not look at future costs and benefits of mergers but applicants should propose appropriate rate reductions. FERC does not agree that a competitive environment and open access is sufficient to not focus on rates. Imperfect markets and a continued monopoly in transmission regulated by cost of service regulation justifies a continued concern for impacts on rates.

Suggested ratepayer protection includes:

1. open season for wholesale customers giving them the right to terminate their contracts with notice and switch suppliers
2. a hold-harmless provision for wholesale customers from an adverse rate impact that can be enforced and administratively manageable
3. a rate freeze for wholesale customers with certain tariffs for a significant period
4. a rate reduction for wholesale customers covering a significant period

The new FERC merger policy directs applicants to adhere to its policies on affiliate transactions or a trial-type hearing will occur. Also, if a state has jurisdiction over a merger, the issue of state regulation would not be set for a hearing. With no state authority for a merger, then FERC can call a hearing on the issue of whether a merger would impair effective regulation.

In closing, it has been noted that "The FERC's promise of a quick review should be treated with a healthy dose of skepticism, however. The strongest entreaties to applicants to submit complete filings and negotiate difficult matters cannot obscure the fact that the FERC has adopted a screening approach that relies on the judgements and interpretations of experts and massive amounts of economic data. One can scarcely imagine better materials for litigious disputes."[162]

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162. Marvin T. Griff, "What's New About the FERC's New Utility Merger Policy*?," Public Utilities Fortnightly,* (February 1, 1997), p. 21.

Appendix III

Comments On The New FERC Merger Policy

The FERC has adopted an analytic "screen" for mergers that indicate market power based on the DJ/FTC Horizontal merger guidelines. Rate protection and mitigation of market power are features of the FERC's new policy. Indeed, the FERC has indicated that "We do not agree either with Commentators who argue that we should actively encourage mergers or whose who argue that we should discourage them".[163] The test is the public interest standard. In short, this new policy would appear to be flexible and fair depending on how it is implemented and evolves.

Mr. Kevin Kelley, FERC Deputy Director of Electric Power Regulation, reports "this particular standard (DJ/FTC horizontal merger guidelines) uses a more detailed analysis that is expected to produce larger markets and fewer anti-competitive findings."[164] It was also noted that the FERC would simplify and streamline the merger process. "Often in the past, merger applicants would have to wait up to two years (in some cases) with the FERC to make a decision. With the adoption of the new rule, investigating and processing a merger decision could take as little as twelve months."[165]

Prior to adoption of the FERC new merger policy, Dr. Richard Hellman stated that "FERC inevitably will be more inclined to view a prospective merger from the perspective of the industry, and give greater credence to claims of efficiency."[166] He then argued for giving the DJ/FTC ultimate authority over mergers. This raises an interesting issue which may be addressed by whether the FERC implements its new merger policy in a balanced way.

A source for more in-depth information is Resource Data International, Inc.'s (RDI) "U.S. Electric Utility Industry Mergers and Acquisitions," 1996. We understand some of the areas it covers are:

- RDI's "merger attractiveness ranking" which includes information from company's strategic position, financial analysis, management score, and operational saving.
- Calculation of market power for major companies.

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163. Ibid., p.13.

164 Denise Warkenstein, "FERC Adopts New Utility Merger Standards," *Electric Light & Power*, Vol. 75, No. 2, (February 1997), p. 1.

165 Ibid., p. 1.

166. Joel B. Dirlam, Personal letter dated June 2, 1996, p. 1.

Economic models as an aid to analyzing M&A were not specifically endorsed or ruled out. Commentators in the NOI took both sides on its usefulness. The FTC endorsed the use of models to define geographic markets and for use to screen mergers.[167] An opposite view was taken by Madison G & E which "says that models do not address conditions in the market for delivered capacity and are inherently incapable of taking into account strategic behavior or potential effectiveness of threats.[168]

We think the FERC made a wise decision by side-stepping this issue until further research is complete. They would allow applicants to submit analysis based on the use of economic models. This is a cost-effective initial response since it takes years to develop modeling expertise and considerable manpower. A review capability which could be contracted out is a prudent preliminary position. Economic models' precision need to be validated that are consistent with decision-makers expectations. Also, "the reliability of such models hinges on the appropriateness of a large number of assumptions that are made in building and running them."[169]

There was general support in the filing for using the HHI index as a screening devise though there was some disagreement on the threshold point. The DJ/FTC guidelines find high concentration over 1800. EEI and APPA suggest 2000 or above and others such as Central & South West would like to see the threshold at 2500. The *Guidelines* suggest a higher figure of 35 percent which we mentioned earlier. Other commentors opposed using an HHI such as Centerior and Commonwealth Edison (Com Ed). Com Ed stressed looking at anticompetitive impacts of mergers such as transmission costs of competition.

We note another interesting critique of HHI's that did not appear as part of the FERC NOI process on mergers. It did appear in the Tellus Institute's testimony on behalf of Maryland's

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167. FERC, "Order No. 592, Policy Statement", pp. D9-10.

168. Ibid., p. D10. For an excellent discussion of the advantages and disadvantages of electric power computer simulation models while still endorsing their use in merger analysis see Mark W. Frankena and John R. Morris, "Why Applicants Should Use Computer Simulation Models to Comply With the FERC's New Merger Policy," *Public Utilities Fortnightly*, (February 1, 1997), pp. 22-26. They argue that computer simulation models can look at competition which depends on demand as well as supply conditions rather than FERC's new "delivered price test" which focuses on only supply conditions. (Parties are asked, however, to supplement a "delivered price test" with a "trade data check" showing who actually traded in a market.) Anticipated is the use of dispatch/transportation models.

169. Frankena, "FERC Must Fix Its Merger Policy," p. 37.

Office of People Counsel in the Baltimore Gas & Electric and Potomac Electric Power Company merger, filed with the Maryland Public Service Commission and the FERC.

Tellus argues that there are important limitations to applying an HHI test to the electric power industry as used by the DJ and FTC and endorsed in the recent FERC merger policy. "While these breakpoints (thresholds) might be appropriate for interpreting the significance of HHI values for other industries, there is no evidential basis for applying the same criteria to the industry...The major limitation of the HHI is that it is mathematically incapable of taking the unique characteristics of the electric industry (1. electricity cannot generally be stored in significant quantities 2. it cannot easily be substituted for in the short term 3. it can only be transported along existing transmission lines that cannot easily be expanded) or its changing structure into account. For example, there is no theoretical basis for squaring each firm's market share. Also, the HHI for one sub-market (baseload, cycling, peaking) can not take into account how that sub-market interacts and affects other sub-markets, since in the electric industry, sub-markets do not operate in isolation from each other. The index has no 'cross-terms' to account for these effects. Tellus recommended that as an alternative to the HHI, new and more sophisticated indices to measure market power in the electric industry must be developed. Tellus also suggested that simulation modeling of electricity markets may be required to accurately measure market power".[170]

The new FERC merger policy does require looking at merger effects on rates and including appropriate ratepayer protection. This should provide some protection from the use of market power analysis that uses a HHI screen.

In the 1990's, the FTC, claims current Chairman Robert Pitofsky and his staff, has shifted its emphasis in merger cases. Now the concern is "How will a merger effect costs? And how will it affect prices?"[171] So then the task is to follow increased concentration and to see what its impact is on prices. Dr. Jerry Hausman has a suggested a formal threshold for government intervention. "If a merger would raise prices by less, say, than 5 percent, he would substitute the presumption that the social virtue of efficiency outweighs the vices."[172]

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170. Julie Michals, "Measuring Market Power in Electric Utility Mergers," *Tellus Institute Energy Report*, Vol.3, No. 1, (February 1996), pp. 3&4.

171. Peter Passell, "A Sea Change in Policy by the Trustbusters," *The New York Times*, (March 20. 1997), p. C2.

172. Ibid., p. C2.

Furthermore, Dr. Shepherd raises the issue that M&A and pricing strategies (i.e., price discrimination not based on cost but on demand) may prevent the transition which includes open access to workable competition in the electric power industry. "Discounting by dominant firms or monopolies will meet or undercut the rivals in the more intensively competitive parts of the market. At the same time, the firm skims off higher price cost margins from its more 'captive' customers, who have lower demand elasticities.

When small firms do it, such pricing is benign and pro-competitive. When monopolies or dominant firms do it, the whole effect is to suppress competition."[173]

Dr. Shepherd argues that competition with price discrimination should be blocked by regulation during the transition to workable competition. Regulatory safeguards would:
1. Void past large firm discounts and disallow new discounts to large firms.
2. Require open disclosure of discounts, if allowed, which might increase competitive pressures.
3. Limit the time period of discounts, perhaps no more than one year.[174]

NRRI has urged state regulators to use guidelines as opposed to a time consuming and expensive cost-benefit analysis for M&A review. Market share and HHI's are not recommended for a streamlined process that is efficient. NRRI developed 19 guidelines which emphasize: " 'Competition first, cost savings second' is fundamental to the protection of the public interest. Mergers and acquisitions (involving dominant firms) can create excess capacity and energy, which are means for improperly thwarting the entry of firms into electricity markets. Mergers and acquisition activity also can create new firms with 'deeper pockets' that can be used to prevent market entry. Finally, mergers and acquisitions can create transmission constraints, which in turn generate subareas of market power."[175]

The revised DJ/FTC merger guidelines were designed to reduce uncertainty from M&A activity. A critique was offered stating that "the guidelines, for all their good intentions, do not provide sufficient guidance to practical people. They have concrete problems to solve whereas the guidelines offer a theoretical scheme of approach, based on assumptions and hedged by ifs and whens.

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173. William G. Shepherd, "Anti-Competitive Impacts of Secret Strategic Pricing in the Electricity Industry," *Public Utilities Fortnightly*, (February 15, 1997), p. 26.

174. Ibid., p. 29.

175. Robert J. Graniere and Robert E. Burns, *Mergers And Acquisitions: Guidelines For Consideration By State Public Utility Commissions*, The National Regulatory Research Institute NRRI 96-35 (1996), p. 23.

As an economist, I (De Jong) regret the rather short-termist, price-oriented emphasis in the guidelines, reminiscent of the contestable market theory. In my view, Antitrust policy should also develop views with respect to long-term effects on market structures. And, as a yardstick for measuring market power, the competitive price level is a treacherous concept."[176] In sum, deriving long-term public interest net benefits from market structure should guide antitrust policy. However, this is a hard task due to the difficulty of predicting the impacts of technological change.

Dr. Harry Trebing has characterized both the electric power industry, natural gas, and telecommunications as tight oligopolies.[177] "There are similarities between the electric power industry and telecommunications such as problems associated with indivisibilities, overhead costs, unused capacity, joint production, scale, and externalities that give rise to a variety of market failures".[178] Dr. Trebing notes that there is a "wide divergence in views held by those in mainstream neoclassical economics (Spulber, Mansell, and Comer) and those sympathetic with an institutional approach. For the former, technology is demand-driven, largely autonomous and beneficial; oligopoly is synonymous with competition, and market clearing prices will yield optimal resource allocation. For the latter, technology is vulnerable to manipulation by those who possess the greatest power and influence, while imperfect markets are not self-correcting over time so government must assume a positive role." [179] (See Edythe Miller, David Penn of APPA, and Rodney Stevenson)

We agree with Dr. Joel Dirlam that it is not clear at this time whether the neoclassicists' and institutionalists' prescriptions which may differ in telecommunications would be the case in the electric power industry concerning M&A policy. Indeed, "How will the neoclassicists' standards differ from those of the institutionalists'? I would assume that both groups would prefer to have more rather than less competition, if competition does not result in excess capacity, and if conscious or explicit parallelism can be avoided... One has to take a specific instance to see what policy an avowed institutionists' -- like Trebing -- would select that would be different from that

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176. H.W. De Jong, "Reliable guidelines? A European comment," *Review of Industrial Organization*, Vol. 4, No. 2, (1993), p. 208.

177. Harry M. Trebing, "Achieving Coordination in Public Utility Industries:A Critique of troublesome Options," *Journal of Economic Issues*, Vol XXX, No. 2, (June 1996), p. 562.

178. Harry M. Trebing, Book Review, *The Journal of Economic Issues*, Vol. XXX, No. 1, (March 1996), p. 318.

179. Ibid., p. 318.

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